

CTO

WebBusiness

Section Two • November 1, 1998
162 Pages In Two Sections



ALSO INSIDE

Co-opetition Nightmare:

How nine newspaper
giants conspired to
kill a lame idea

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For Genzyme's Dorothea
Eiben, the corporate
intranet started at
ground zero: zero
budget and zero staff.

Bargain Intranets

Growing your inner Web from
humble origins to strategic resource

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CIO

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Section Two • November 1, 1998
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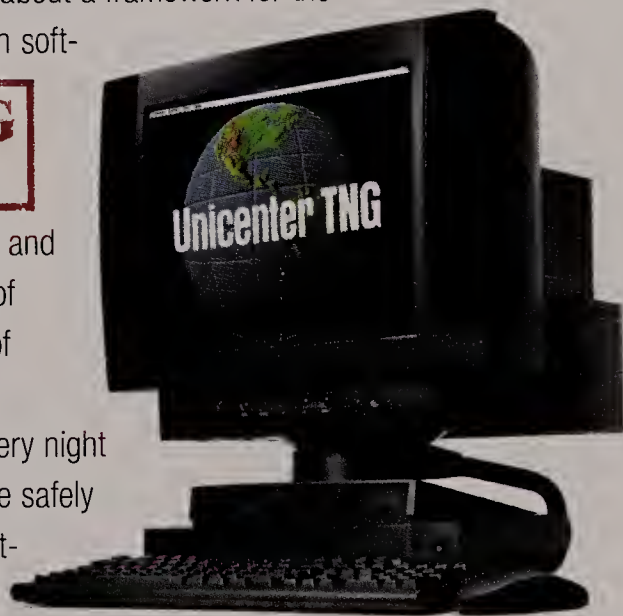
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WebBusiness

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STRATEGIC PARTNERSHIPS When they saw the Web coming, nine of the most powerful newspaper publishers in America knew they had to do something. They just couldn't agree on what it was. *By Sari Kalin*

on the cover

Stretch those
cyberpennies.



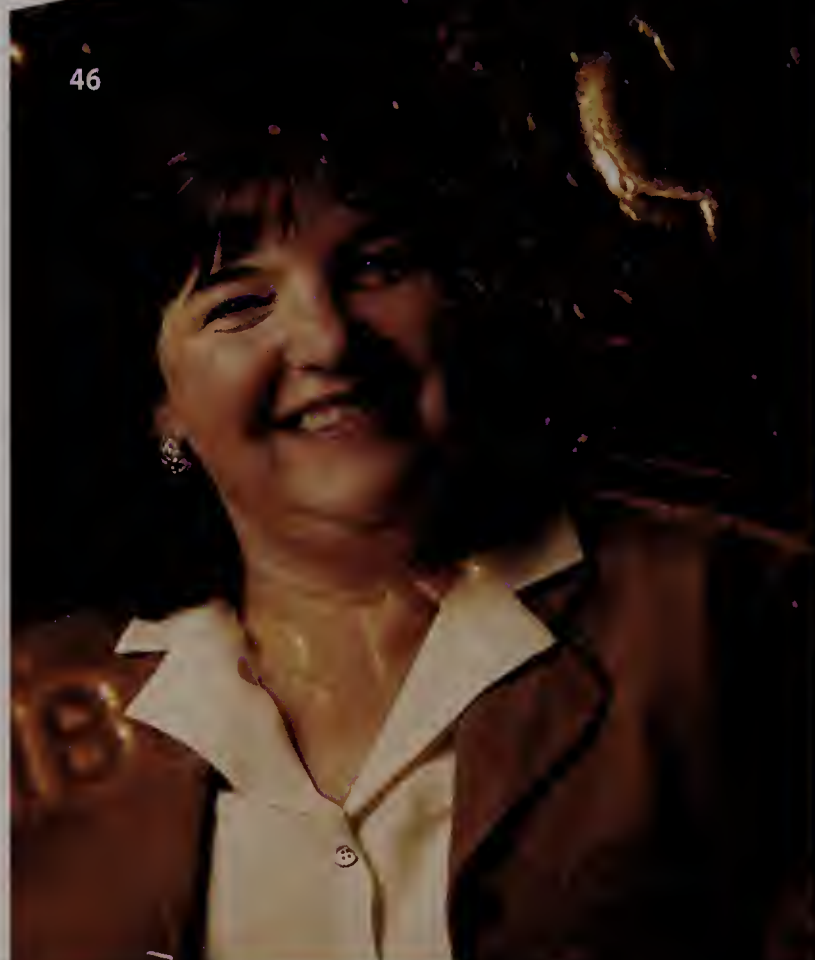
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CHANGE MANAGEMENT In less than three years, Dow Chemical turned its IS operations and strategy upside down and lived to tell the tale.

CUSTOMER SERVICE If you don't untangle your company's customer contacts now, you may be caught in a web of your own making.

THINK TANK Access to information isn't enough. IS leaders need to help users find the needle in the haystack.

EXPERT ADVICE Providing continuous learning and growth opportunities is crucial to retaining IT professionals.

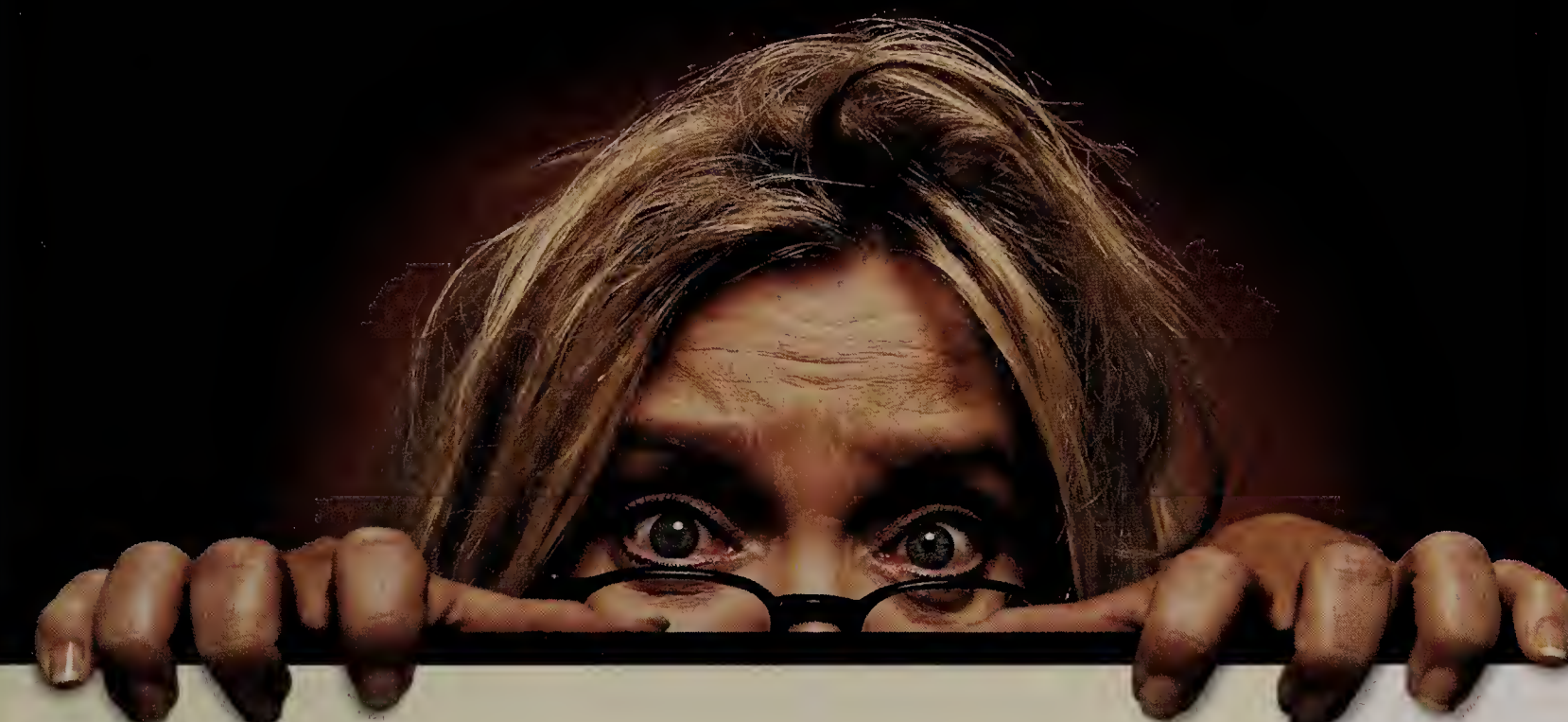
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SHOP TALK Visa USA's Scott Thompson on contingency planning for Y2K.

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The Speed of Thought

THE OCCASION OF INDEPENDENT COUNSEL KENNETH STARR'S REPORT, delivered through the vessel of the Internet, has made many of us think again about the tension between information quantity and information quality. There was a time when people spoke rapturously of having at one's fingertips a resource "as big as the Library of Congress." That symbolic benchmark, now dwarfed, was meant to make us salivate, not quake with dread.

But quake we should—at least for now. As the velocity and volume of information increase, the speed of thought seems to be slowing down. Information turns out to be not lighter than air but approximately the consistency of cooling oatmeal. Knowing what to make of all we "know" is a major modern predicament. The process of acquiring information now threatens to crowd out the more

important process of understanding its context and evaluating its meaning. These are quieter arts.

We are used to being told what to think without always understanding the interpreters' agendas. But here was an instance of unimpeded information access, which many Internet enthusiasts swear is the very best thing about this new medium. People say that in a market where all information can compete on an equal footing with all other information, the cream will find its way to the top, the sediment to the bottom.

Well, that's not actually true. As in any other medium, marketing rules. And Ken Starr's unmediated material culminated the mother of all marketing blitzes (including not merely a bloody glove but a presidentially stained dress). The speedy dissemination of Starr's office's singular viewpoint propelled us all too swiftly past the important understandings that ought to have

preceded it: What is due process? What is the role of a prosecutor? How do grand juries operate? Is Starr obligated to present all the evidence or just the stuff that helps his case? What's the other side of the story? Is the information true? Is it fairly represented? What is its ultimate marketing objective?

While there was something oddly wondrous in seeing CNN reporter Candy Crowley reading the naughty bits live right off the Internet—even the cable networks must scramble to catch up with unmediated information flow—the Starr report upload rushed into this contextual vacuum.

The Internet doesn't come with instructions. In a space where information ranges freely—the dreck alongside the treasures (and in many ways indistinguishable from them)—we will all search for help in discerning right choices among the things to credit. As publishers of information, CIO Communications hopes its brand has meaning to the flock we serve. In the evolution from print publishing to online information, we too are trying to identify how we can offer context that deepens rather than obstructs understanding. But we are concerned when the raw speed of unmediated information access overwhelms the speed of thought.



Lew McCreary
Lew McCreary
Editorial Director
mccreary@cio.com

PHOTO BY JERRY MARGOLYCH

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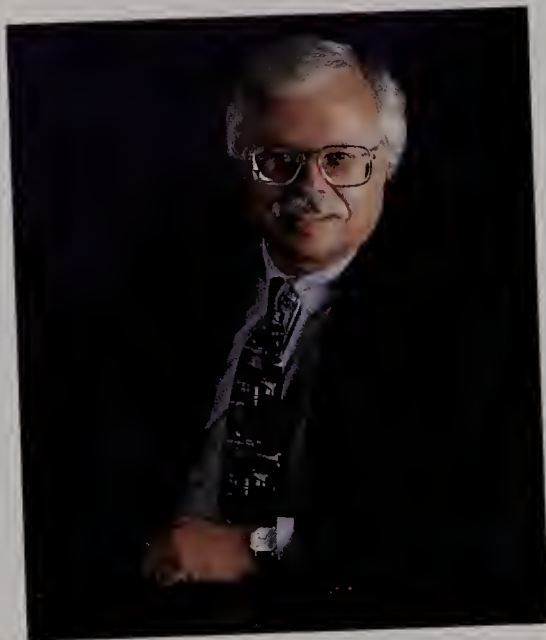
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Virtual Growth

THE WEB IS NOT JUST FOR ADVERTISING AND PRODUCT INFORMATION—it's for customer relations. According to a recent PricewaterhouseCoopers LLP survey, 61 percent of "trendsetter" companies with Web sites are also using them to build relationships with customers and prospects, and 60 percent use them to invite comments and feedback.

"Companies that understand the concept of 'virtual communities' are positioning themselves to capture the hearts and minds of their customers," notes Ellen M. Knapp, CIO for PricewaterhouseCoopers. "These firms know that creating virtual communities will help them better understand and bond with the customer, essential to building market share in today's knowledge economy."



In addition to developing a close relationship with their customers and prospects, trendsetter growth companies use their Web sites in a number of different ways. Most use them to advertise (94 percent), provide in-depth product or service information (85 percent) and obtain new sales leads (71 percent). Moreover, slightly more than half (51 percent) include their Web sites in employee recruitment efforts, and 50 percent, like Cisco and Dell, use them to provide services to customers.

Only 32 percent with a Web presence use it for direct sales of products or services. "This low percentage is undoubtedly rooted in concerns about privacy and electronic commerce security," explains Knapp. "Even among risk-taking growth companies, e-commerce security remains an issue they must grapple with."

Growth companies report that ongoing maintenance is essential if a Web site is to succeed. Currently, 25 percent update their site information daily or weekly and another 33 percent do so at least monthly. And 77 percent of America's fastest-growing companies have at least one Web site; another 14 percent expect to follow suit within the next 12 months.

A key fact for CIOs to consider is that 24 percent of CEOs rate their company's Web site as a major or important contributor to the growth of their enterprise. And 50 percent expect this will be the case in the next 12 to 18 months.

How is your organization planning to use the Web in the future? Is your technology platform ready to take advantage of the new Internet economy?

What's your opinion? As always, I appreciate your thoughts and comments.

Joseph L. Levy
President, CEO and Group Publisher
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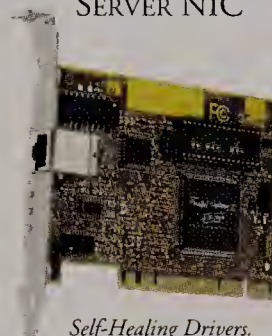
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THREADS

Northern Lights

TO SEE THE INTERNET on steroids, just look north. Several Canadian companies have partnered with the federal government to build CANet3, a powerful national Internet backbone. CANet3, scheduled to begin coming online this fall, may be the world's fastest network once it's completely operational in 1999.

"Frankly, we can brag about being the best in the world in something," says Lyne Morin, communications director for the Canadian Network of Research, Industry and Education, the consortium overseeing the project.

Thanks to its fiber-optic architecture, CANet3 will be able to transmit information 1.5 million times faster than a 28.8 modem, says Canadian Minister of Industry John Manley. In comparison, the fastest-known American network claims it can deliver the entire contents of the U.S. Library of Congress in one minute. Says Manley: "This is a task CANet3 could perform in one second."

CANet3, which will replace an earlier-generation Internet backbone, is the first to completely eliminate reliance on traditional voice infrastructure.

Initially limited to researchers, it will eventually

serve industry, communities and schools and will recover the 80 percent of Canada's Internet traffic that currently flows south to the United States.

The Canadian government paid a third of the project's \$120 million (Canadian) cost. The rest will come from private-sector partners, including Bell Canada, Cisco Systems Canada Co., JDS Fitel Inc., Newbridge Networks Corp. and Northern Telecom Ltd.

—Anne Stuart



Not Impressed, Not Depressed

When a two-year-long Carnegie Mellon study of Internet users indicated that even moderate use of the Web could make people feel socially isolated and depressed, surprised researchers and computer industry sponsors searched for reasons. Sara Kiesler, a professor of social sciences who worked on the study of 169 Web users in the Pittsburgh area, suggested that users were substituting Web browsing for real-life relationships, but there was little more rationale for the disturbing results.

We wondered what Howard Rheingold, founder of the conversation-oriented Web site Electric Minds (www.minds.com) and a well-known advocate of the value of virtual community, had to say. So we asked him.

"It's serious research," says Rheingold. "But there are very serious questions about whether the methodology and findings warrant any general conclusions. A couple of hundred people in Pittsburgh who never used the Internet before? A very general distinction between e-mail (and all other social communication online) versus surfing? Testing people twice in a two-year period? Humans and human moods are rather more complex than that. I'd like to see studies that attempt to remedy the sampling and methodological questions raised about this study. This is the beginning of the research process, not the end."

—Art Jahnke



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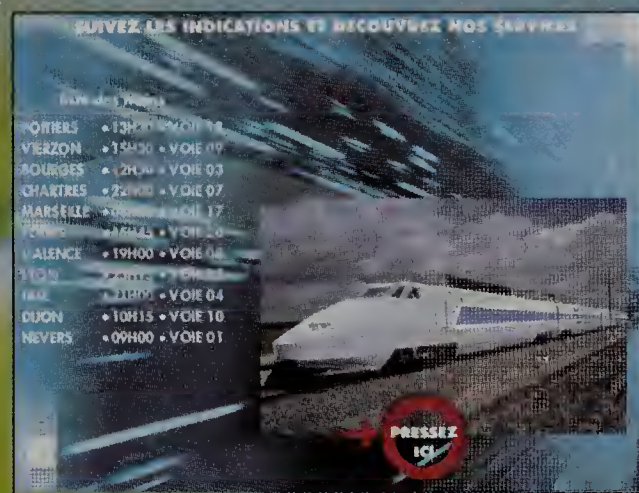
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Continental Drift

Most European executives view electronic commerce as an important strategic initiative. But few are doing anything about it, and their failure to act jeopardizes the competitiveness of the continent's businesses, according to Andersen Consulting, which surveyed 300 senior European executives between December 1997 and July 1998.



The survey found that 82 percent of European executives think that electronic commerce will have a strategic impact on their businesses in the future, but only 39 percent are taking steps today to incorporate it into current operations and strategies. By contrast, Andersen found that 77 percent of U.S. executives are actively pursuing or planning electronic commerce strategies.

Why the wait? For one thing, the Web is still primarily an English language medium and that factor is retarding its growth in non-English speaking countries, says Steve Johnson, Andersen's codirector of electronic commerce. In addition, many European IS executives are preoccupied with the euro conversion, new European Union commerce regulations and Y2K compliance, leaving little time for e-commerce initiatives.

"Europe cannot afford to take a wait-and-see approach to this issue," says Vernon Ellis, Andersen's managing director for Europe, the Middle East, Africa and India.

—Peter Fabris

Read Before Opening

The Extraprise Group (www.extraprise.com), a Boston-based consultancy, offers these 10 critical steps to a corporate e-business

1

HAVE A CLEAR business objective.

2

MAKE SURE top-level management is committed.

3

MAKE A LONG-TERM commitment.

4

ENSURE THE BUSINESS model supports electronic distribution.

5

FOCUS ON PRODUCTS that are ready to be sold over the Internet and then extend the program to reduce costs of other products.

6

MAKE SURE INTERNAL business processes support an electronic sales model.

7

CONSOLIDATE INFORMATION systems around a small number of enterprise software packages that can be integrated into the initiative.

8

PROMOTE the initiative.

9

LOOK FOR OPPORTUNITIES to extend the program to partners and suppliers.

10

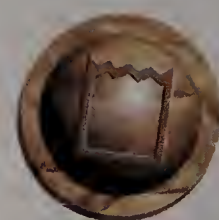
CAPTURE INFORMATION from each transaction and use it to improve the program.

Big Brand Era

For awhile anyway, business school professors from Berkeley to Boston lectured about the Internet's potential to be the great leveler of playing fields. The Internet was, after all, a place where a storefront was not only affordable to all, but all its real estate appeared to be of equal value. It was a place where a bookseller with a silly name like Amazon.com could steal the thunder from an established brand like Barnes & Noble. For awhile.

Now comes a report by researchers at the Stanford Graduate School of Business that marks the end of notions of a merchandiser's utopia. Using a complex model that factors in consumer behavior and the costs of shopping, business school professors Rajiv Lal and Miklos Sarvary demonstrated that the Internet can discourage consumers from searching for products that compete with known brands. In the virtual world, they conclude, as in the real world, the product that has the best reputation wins.

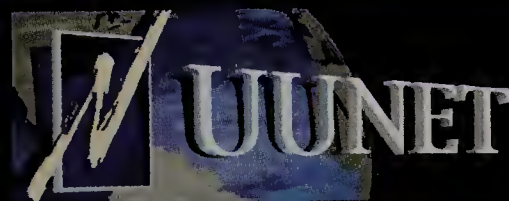
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Chill Out and Choose a Good Password

expanding the study to cover incidents reported through 1998. *CIO Web Business* asked him about his findings.

CIO: How worried should we really be about Internet security?

John Howard:

Internet security is not as bad as some authors have proposed. In terms of the absolute number of incidents and the growth of these inci-

dents, the numbers are lower than popularly thought. Most of the significant incidents get reported, so we know a lot more about what is going on than people assume. Most attacks were in the category of a nuisance (although some were a big nuisance) and not something more destructive or harmful. The average Internet user is not likely to be the victim of an Internet

attack, and reasonable precautions to protect files and data in transit on the Internet should be sufficient.

So what kinds of precautions should users and site administrators take?

The problem is that many site administrators don't take even the well-known, simple steps to secure their computers and networks. For example, users with poor passwords continues to be one of the most frequently exploited vulnerabilities. Some of the steps that users and site administrators should take are back up important files; use a good password for network access controls; ensure permissions are set properly on files that can be accessed by others; encrypt, or store offline, files that are particularly sensitive; do not send sensitive user identifications, such as a social security number, address, phone number, personal data, or credit card number across the Internet unless it is encrypted at the source (prior to being sent across the Internet); use an encryption program if you want e-mail to be private. Corporate users should also conduct some form of risk analysis to determine the cost-effective level of security.

What is the likelihood that a large Internet site will be involved in some kind of security incident?

A large Internet site is involved in some kind of security incident about once a year. Most of these incidents are relatively minor. Successful break-ins are much less likely. For example, if you have a computer connected to the Internet and it is sitting in a building in New York City, it is more likely that the building would have a serious structural fire than that the computer would be broken into. On the other hand, if you have a site that has a few thousand host computers, then you are more likely to be a target.

—Sari Kalin

INTERNET SECURITY might not be as shoddy as you may think, says John Howard, a researcher at Sandia National Laboratory in Livermore, Calif. Howard recently completed a study of 4,300 Internet security incidents reported to the Pittsburgh-based Computer Emergency Response Team from 1988 through 1995; he is currently

Would You Buy a Used Car from This Web Site?

When it comes to the value of leasing an automobile compared with buying one, the jury is still out. But the value of the Web in selling previously leased vehicles is crystal clear to car dealers like Volvo Cars of North America Inc. (www.volvocars.com) of Rockleigh, N.J. The dealership recently teamed up with AutoConnect (www.autoconnect.com) to list used cars available at participating dealers on the Web. Suppose someone is looking for a 1995 Volvo 940 with fewer than 40,000 miles. She visits the AutoConnect Web site, enters the desired car characteristics as well as her ZIP code and submits the query. AutoConnect returns a list of cars that meet her specifications as well as the distance she needs to travel to get to the dealer. A click on the search returns will reveal more information about the car including color, features and vehicle identification number.

According to North Holbrook, Volvo's preowned car-line manager, the agreement with AutoConnect is an ideal way for Volvo to market its used cars without adding to the workload of dealers. "The Internet customer can do a lot of shopping and research upfront without taking up someone's time in the showroom," says Holbrook. Listing cars on AutoConnect is optional and free for Volvo's 350 dealers.

—Megan Santosus





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Five Keys to the Kingdom

Because Yahoo directs more Web users to their destinations than does any other search engine, Web developers covet a high rating on Yahoo's directory. Turns out there are a few tricks that can help. Those tricks, and others that work on other search engines, are spelled out in a new book, *Achieving Top Ten Rankings in Internet Search Engines* by Frederick Marckini. The book is available for \$99 at www.trafficbuilding.com, or at no cost for those who purchase WebPosition Gold (www.webposition.com) software that helps optimize a Web site's ranking in major search engines.

So how does one optimize a ranking on Yahoo? Here are five of Marckini's tips:

- 1** MAKE SURE YOUR SITE looks good. If it is under construction, do not submit it.
- 2** DO NOT USE submitting software, a submitting service or any automated tool to submit to Yahoo. Yahoo prefers manual submissions.
- 3** THINK CAREFULLY about which two categories you would like your Web site listed in. Yahoo allows listings in only two categories.
- 4** IN THE YAHOO submission form, carefully construct a site description, using one or two important key words in the first words of your description. Make it key-word rich; avoid stop words such as *the* or *and*.
- 5** EXPLOIT THE alphabetizing process of search engines. Sites that begin with the letter A are listed first.

—Art Jahnke



Blind Faith

AFTER READING HUNDREDS OF stories about Web sites that act as matchmakers for businesses of every type, it's a relief to come across a site that actually is a matchmaker in the traditional sense. Blinddate (www.blinddate.org) allows anyone with a Web connection to meddle in the personal lives of friends, relatives and even people they hardly know. The concept behind Blinddate is simple. If you know two people you think would make a nice couple, log on to Blinddate, enter their e-mail addresses and a date and time, and a server takes care of sending out the invitation.

"It's said that people around the world are getting more and more lonely," says Martin Stadhammar, a cofounder with Oskar Bard of Blinddate. "Perhaps we can do just a little thing to change that."

The two budding matchmakers both work at Manne & Co., an advertising agency based in Stockholm.

So far, according to Stadhammar, thousands of people have used the site. And while the service, currently available in Swedish and English, is free, Stadhammar says Blinddate is seeking a sponsor.

May we suggest www.1800flowers.com?

—Megan Santosus

TOP Techs

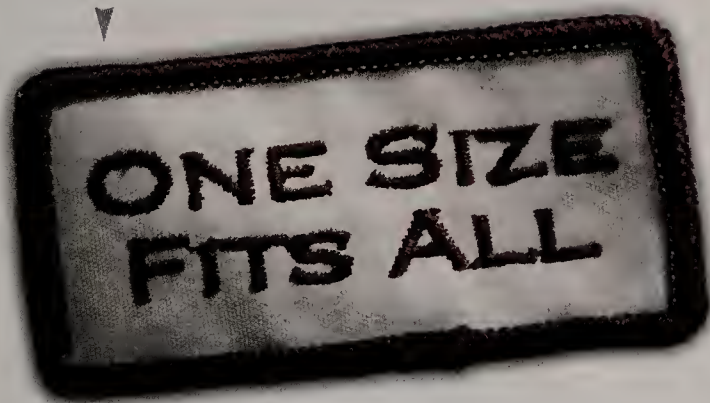
Technologies identified as most significant in a recent study by A.T. Kearney of 213 executives in corporations around the world

Internet/intranets	42%
Integrated application packages	25%
Networking	23%
Electronic commerce	18%
Client/server	14%
Open systems	9%
Distributive computing	8%
Multimedia	6%
Object-oriented design	5%

SOURCE: "STRATEGIC INFORMATION TECHNOLOGY AND THE CEO AGENDA," A.T. KEARNEY

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Building Trust

Today's home improvement industry is a multibillion-dollar market that nobody owns. ImproveNet founder Bob Stevens wants to change that.

BY CLAIRE TRISTRAM

W

HEN TED ALLRICH WAS PLANNING HIS \$1 million-plus dream house in the Silicon Valley community of Woodside, Calif., he did something most of us wouldn't think of doing: He searched the Web for a building contractor. That's how he discovered ImproveNet (www.improvenet.com), which advertised a database of contractors that had been screened to include only those with good credit and legal histories. "I e-mailed in my requirements and ImproveNet sent back a synopsis of five contractors," Allrich recalls. "All called me to follow up. From that list, I chose my builder. It saved me a tremendous amount of time."

Allrich is far from the typical Web user: He's a partner in The Online Investor (www.theonlineinvestor.com), an Internet-based business. So while many of us are still warming up to the idea of buying an \$11 compact disc or an \$8.50 paperback over the Web, searching online is almost second nature to him.

But ImproveNet founder Bob Stevens is banking that Allrich and other early ImproveNet customers are at the forefront of a new and better way to manage major home improvement projects. Every month, more than 100,000 people visit Stevens' 1-year-old site, a matchmaking service for homeowners and contractors. And Stevens projects that about 17,000 of those visitors will hire contractors through ImproveNet this year, signing more than \$1 billion worth of deals averaging close to \$60,000 apiece.

www.improvenet.com

Here's how ImproveNet works: Homeowners interested in improving their properties visit the site and leave an electronic message describing their projects, their deadlines and their budgets. ImproveNet employees then send these requests to pre-screened contractors with the same telephone area codes as the homeowners. (Ironically, these requests for proposals are sent via broadcast fax, because less than 10 percent of the contrac-

tors in ImproveNet's database regularly use e-mail or have on-line access.) Interested contractors respond directly to ImproveNet, which then forwards the bids to homeowners via e-mail. Without paying a cent, homeowners get a list of contractors who have been in business for at least three years, who have been screened within the last quarter and found free of credit and legal problems, and who are available for the proposed jobs. Stevens says ImproveNet has faxed as many as 8,000 requests in a single day.

A soft-spoken and thoughtful man, Stevens spent 20 years as a real estate developer before founding his San Francisco-based company in 1996. His idea was simple enough: Take a business plagued by a negative reputation—people trust home improvement contractors only slightly more than auto mechanics—and offer homeowners a way to avoid the bad apples. However simple a concept, though, it has proved a challenge to execute. Because ImproveNet is an information-providing service, Stevens doesn't see much of the \$1 billion in contracts that will flow through the site this year. Homeowners pay nothing for the service. Stevens' market research with contractors told him they would be willing to pay only a \$6 processing fee to be included in the initial list to homeowners, and ImproveNet's operating costs are about \$8 per project.

When hired for a project through ImproveNet, contractors pay Stevens on a sliding scale depending on project size; fees range from a \$30 minimum to \$425 for projects over \$100,000. By agreement with contractors, the fee isn't passed on to homeowners. The average fee for deals closed on ImproveNet is \$115. So ImproveNet's success depends on generating a huge volume of transactions.

Stevens believes that his business con-

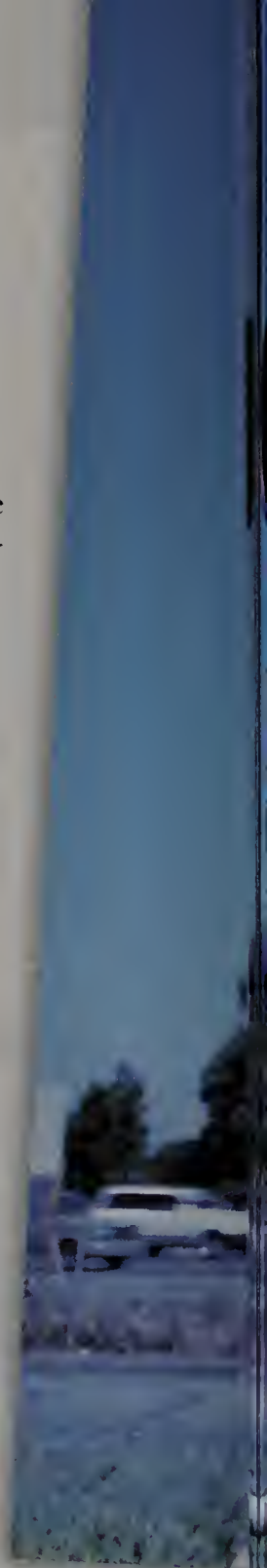


PHOTO BY JOHN HARDING



BUILDING BUSINESS:

Bob Stevens' ImproveNet matches homeowners with trustworthy contractors.

Without paying a cent, homeowners get a list of contractors who have been in business for at least three years, who have been screened within the last quarter and found free of credit and legal problems, and who are available for the proposed jobs.

cept is sound and that growth is now his focus. "We're not anywhere near breaking even," he acknowledges. "But I believe we have the makings of a \$500 million business. Our business shows the power of the Internet to engage people in a new way and essentially to create a new market. We haven't even really begun to scale up."

To put Stevens' goal of becoming a

half-billion-dollar-a-year business in perspective, consider that with that \$115-per-contract take, Stevens will need more than 4 million people annually arranging major home improvement projects through his site, compared with 17,000 this year. That's a lot of people, and it will require a major advertising push just to make potential clients aware ImproveNet exists.

"There are 50 million people now online, but half of those have never bought as much as a book, much less hired a contractor," says Robert Seidman, Internet consultant and editor of the Online Insider, an Internet business report (www.onlineinsider.com). "Even when you look at the killer categories [like books] where volumes are high, you won't find anyone making money

yet. While ImproveNet is making more money per transaction than online bookstores, the scale is so much less that their business model is a little precarious." Stevens has already experimented with a number of advertising strategies to get the word out, including banner advertising on portal sites, print advertising and direct mail campaigns. Most significantly, ImproveNet has just closed deals with two major portal sites, Excite and Netscape, where ImproveNet is a featured vendor within these sites' home and real estate sections. Traffic to ImproveNet doubled virtually overnight after ImproveNet appeared on these sites. The company is pursuing similar placement on other high-volume portals.

Like many Web-based entrepreneurs, Stevens continues to experiment with finding just the right revenue model. He is pursuing sponsorship deals with vendors of building supplies to allow them "advertorial" space on his site. He is adding additional databases to help match homeowners with architects and designers. He even offers a new service that will provide homeowners with multiple bids from fixture, materials and appliance suppliers. "It's a similar model to our contracting referral service," he says. "Say you've decided on a certain model of refrigerator. We'll send out your request to a number of distributors in the area and provide you a list of quoted prices. We've seen a variation of as much as 30 percent in price, so there's a lot of room to help the consumer."

Another challenge Stevens faces is maintaining data quality. With more than 600,000 contractors listed in his database, Stevens promises only quarterly updates. By relying on public records to research credit and legal histories, he also misses contracting businesses run as sole proprietorships and thus not subject to the same reporting requirements as incorporated businesses. Licensing and insurance requirements also vary from state to state. For now, a simple and consistent way of assuring the quality of a given contractor just doesn't exist.

To combat that problem, Stevens is

launching his own ambitious quality-assurance program, providing quality ratings for contractors who go beyond the public-record data. Sole proprietors are invited to submit proof of their credentials. The company also employs

**His idea was simple enough:
Take a business plagued by a negative
reputation—people trust home
improvement contractors only
slightly more than auto mechanics—
and offer homeowners a way
to avoid the bad apples.**

online customer feedback surveys, and more than a few contractors have been eliminated as a result of what homeowners have had to say about them. Other contractors have received high marks, based on a history of satisfying their clients. Homeowners can see previous customers' remarks about the contractor at the site and can make their decisions accordingly on whom to hire. Stevens' approach will give him the data, over time, to provide qualitative information about contractors that's currently available nowhere else. "We wanted a method to really identify the top people," says Stevens. "We've already canvassed thousands of architects and other professionals for their recommendations. I also believe that simply by being who we are, and because we deliver business to these contractors, we pass a quality standard on to the homeowner. Contractors are less likely to cut corners if they know it can jeopardize what's becoming an important source of business for them."

Perhaps the biggest challenge Stevens faces, though, is gaining the trust of his audience of average homeowners. Although he has already built a database that likely houses more information about home improvement contractors than any other single source, he still must find a way to convince people that ImproveNet has done its job—that the company has screened out inappropriate references and is actually providing both up-to-date and unbiased information about contractors.

The ImproveNet site itself doesn't reflect Stevens' efforts to be more than a Yellow Pages directory for contractors. The home page is virtually indistinguishable, as a matter of fact, from Remodelers Online (www remodelers.com), an online service that signs on any contractor who pays to be included and which has done none of the work ImproveNet has to guarantee quality. Further muddying the waters, Stevens includes paid advertorials—paid ads that resemble editorial material—on his site. "The real purpose of this site is to give me objective in-

formation," says Seidman, "but already there are areas of the site where it's not clear if the information is paid advertising or not. That's a potential conflict. I'm right back with the same problem that I have when trying to find a contractor myself, namely, how do I trust these people?"

Despite these obstacles, Stevens appears to be making the right moves to make his business fly. Over the past two years, his company has grown from 2 employees to 26. It has raised \$7 million in capital, including a significant minority investment from Allstate Insurance Co. Stevens plans to use much of that capital to conduct an advertising blitz early in 1999, with concurrent print, television and online spots in venues still to be determined.

Stevens says unbiased customer service for homeowners will always be his number-one priority and will remain the reason people come to ImproveNet again and again. "I'm really trying to become the *Consumer Reports* of the home improvement business," he says. "Our position as a company will always be to serve the interest of the homeowners. But they don't pay us. So we have to make revenue while maintaining our independence. It's a balancing act, but in the end it's maintaining that focus on the homeowner that is going to make us win." **CIO**

Claire Tristram, who writes frequently about the business of technology, can be reached at tristram@concentric.net.



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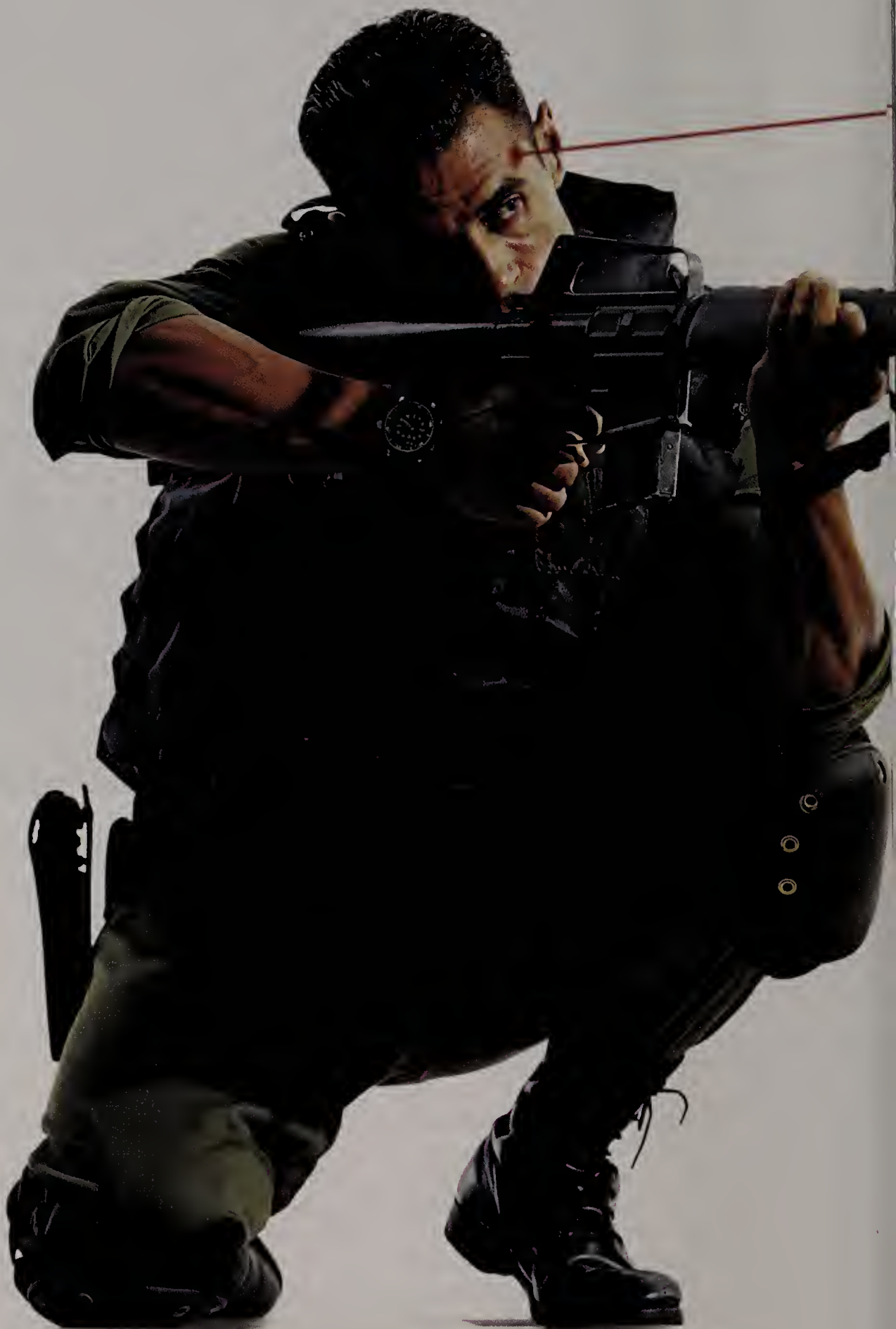
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Go Long

The pace of technological change makes long-term planning more difficult—and more important

BY JIM STERNE

IN BUSINESS, THE RATE OF CHANGE CONTINUES TO ACCELERATE. Remember the five-year business plan? Remember creating a new one every year? Now businesses are lucky if they can make a five-month plan and update it once a year.

Soon we'll need multiterahertz chips with continually mutating genetic software just to keep up with the shifts in technology, market places, business models and board member brainstorming.

Nevertheless, there is a real need for companies to have a big, long-term picture clearly identified even if they are swamped by day-to-day changes in technology. While companies are busy putting one foot in front of the other, it pays to have a final destination—or at least a general direction—in mind. But with the Internet, is it even possible to look out 10 years?

For an idea of how some people are trying to take a long-range perspective, check out the Millennium Clock project proffered by The Long Now Foundation (www.longnow.org), a San Francisco-based nonprofit group. A pet project of computer scientist Daniel Hillis, the 10,000-year Millennium Clock project was inspired by an unlikely source. In 1386 the builders of Oxford University's College Hall at New College planted oak trees to assure the availability of timber hundreds of years later when the building would need new beams. As Hillis sees it, that kind of long-range thinking is absent today. In his opinion, too many people suffer from short attention spans that don't extend beyond the year 2000. Both the Millennium Clock and The Long Now Foundation aim to "foster long-term responsibility" and to promote thinking about the "deep future."

Hillis is soliciting design input on the Foundation's Web site to build a scale model prototype of the clock. As Hillis explains on the site, "it is time for us to start a long-term project that gets people thinking past the mental barrier of the millennium. I would like to propose a large (think Stonehenge) mechanical clock, powered by seasonal temperature changes. It ticks once a year, bongs once a century, and the cuckoo comes out every millennium." Sound a bit out there? Maybe so, but consider some of the luminaries involved with the Foundation. In addition to Hillis, board members include Paul Saffo, director of the Institute for the Future, Douglas Carlston, chairman of Broderbund Software Inc., and Esther Dyson,

publisher of the *Release 1.0* newsletter.

Of course, thinking about the future does not have to extend out 10,000 years. In May 1997 Microsoft Corp. Chairman Bill Gates revealed his thoughts about the future of computing in a speech to the Newspaper Association of America. "We are going to create computers that understand information, computers that can speak, that can listen, that can recognize handwriting, computers that even with inexpensive digital cameras can see and know what is going on," Gates predicted.

Given that kind of insight into the future, how does a company plan for such a scenario? How will a company manage in a world where global prices and availability turn every product or service into a commodity? Companies can't even begin to guess until they get a handle on what they really do.

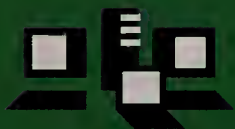
While IS contemplates desktop upgrades and new technology strategies, is the CIO communicating with people at the top? Executives read the paper. They know the Internet is serious business. But do they have that knot in the pit of their stomachs when they read about Dell Computer Corp. (www.dell.com)



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racing ahead of the competition because of the company's Web-based commerce applications? Do they understand the long-term implications of Amazon.com Inc. (www.amazon.com) and CDnow Inc. (www.cdnw.com), two retail businesses that have no physical stores? Or are they the type of executives so firmly focused on Wall Street that they can see only as far as the next quarter?

If executives can't see beyond the end of the next fiscal quarter, it's time for IS to pull them up to the 40,000-foot level. The most expedient way to do that is also the most obvious: Simply ask the execu-

ing business structures and operating models. The companies that are succeeding on the Web are those that have realized that the network is the company.

As companies place increasing emphasis on the Web, it's the CIO's job to clue in management to the fact that the Web necessitates a shift in the role of the IS department. For many of today's business executives, there was a time when computers were relegated to crunching numbers in some back room for finance. As client/server technology developed, the people in IS eventually had to convince such executives that computers could

about the power of the PC need to understand that IS is no longer about book-keeping—IS is the vehicle the company must use to move on to its next iteration.

Only when a company knows what business it's in can its executives look down the road and form a coherent strategic plan. Strategy allows for planning and planning allows for tactics. Unfortunately, our lives are so fraught with managing the tactics that we don't have time for making plans, to say nothing of thinking of strategy. Fortunately, however, thinking strategically is a skill that can be honed if not learned.

George L. Morrissey, chairman of The Morrissey Group (www.morrissey.com/index.html), a management consulting firm based in Merritt Island, Fla., and author of *A Guide to Long-Range Planning: Creating Your Strategic Journey* (Jossey-Bass Business and Management Series, 1995), recommends the use of Decision Trees to formulate strategic plans. The trees graphically chart the following:

Reaching out to synergistic partners and breaking into new territories is the Internet culture of the late 1990s.

tives what business they are in. Only then will executives come to appreciate that the Web isn't simply a valuable communication and information tool. At its heart, the Web is a transformative tool that's chang-

control inventory, improve manufacturing, streamline workflow and manage purchasing. Remember the arguments over putting a PC on every desk? The same people whom IS had to educate



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- Major corporate events, phases and accomplishments
- Primary and supporting accountability for events, phases and accomplishments
- The time sequence of events
- The corporate resources required to ensure that events and accomplishments take place
- Feedback mechanisms throughout the corporation

Morrissey breaks planning into three broad categories: strategic, which leads to perspective; long-range, which leads to market position; and tactical, which leads to performance.

When it comes to the Internet, companies need only look out about five years into the future before leaping from the world of the foreseeable and predictable into the realm of the possible. In taking some wild guesses as to what the Internet will hold in 10 years' time, there's an opportunity to do some thinking along the lines of science fiction.

We can start by supposing that every

appliance and device that runs on a battery or electricity will have an IP address. In addition to the e-mail and voice mail available today, mobile phones will access car alarms, household appliances and

partners and breaking into new territories is the Internet culture of the late 1990s. And anything having to do with the Internet culture tends to bleed over into the rest of the business world fairly read-

Strategic alliances are the most significant business-model change ushered in by the Internet.

home heating and air-conditioning systems. As customers walk up to a vending machine, they can request their usual selection by sending an encrypted message to the machine via their mobile phones and get a customized order every time.

If planning 10 years in the future taxes the imagination at your company, it takes little imagination to recognize that strategic alliances are the most significant business-model change ushered in by the Internet. With the Internet, it has never been so easy for a company to ally itself with others to outsource, cobrand or enter new markets. Reaching out to synergistic

ily. As a result, thinking in terms of specific strategic alliances may be one way to crystallize longer-range planning efforts.

As the world continues to change at a faster pace, it behooves corporate executives to look to the core competencies of their own firms and start to partner with those that are also making long-term plans. In the end, it's not what you know, it's who you know. **CIO**

Jim Sterne is the author of What Makes People Click: Advertising on the Web. He can be reached at jsterne@targeting.com.



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THE MAIN ATTRACTION

Channel Concord

The Web isn't just for alienating partners anymore

BY SCOTT KIRSNER

WHAT IS IT THAT MAKES ELECTRONIC COMMERCE SO sexy? It's the direct relationship with the customer. Who needs intermediaries? Just lure a potential customer to your Web site, show him your wares and consummate the transaction online. Ka-ching!

That's the idea at least. Reality is a bit different. Customers aren't yet conditioned to buy direct from the manufacturer. And most manufacturers aren't yet conditioned to sell direct; many lack an infrastructure for providing the level of service a retailer can. And when products require complex configuration, installation and servicing, buyers often rely on third parties to perform those tasks—especially if the manufacturer has no track record.

An anecdote: In 1996 I worked with a major New England shoe company to help build its first-generation Web site. All the executives at this company—one of the biggest brands in comfortable footwear—were thrilled with the notion of using the Web as a sales channel. "This is our chance to finally get closer to our customers!" they crowed. But the company's network of retailers hated the idea of online sales. They customarily gave the company premium positioning in their stores and enjoyed great profit margins on the product. Start selling direct, the manufacturer was warned, and the retail channel would mutiny.

The solution was evolutionary. The first iteration of the site would point potential buyers to the retail shops closest to them, based on ZIP code. (A new version of the site even offers interactive maps to help visitors find retailers.) Eventually, the company may pursue online sales in geographic areas retailers don't cover or even sell certain specialty goods directly; but for now, the Web site is a tool that supports the channel. It fosters channel concord, not channel discord.

Others are following that model, and new tools help companies use

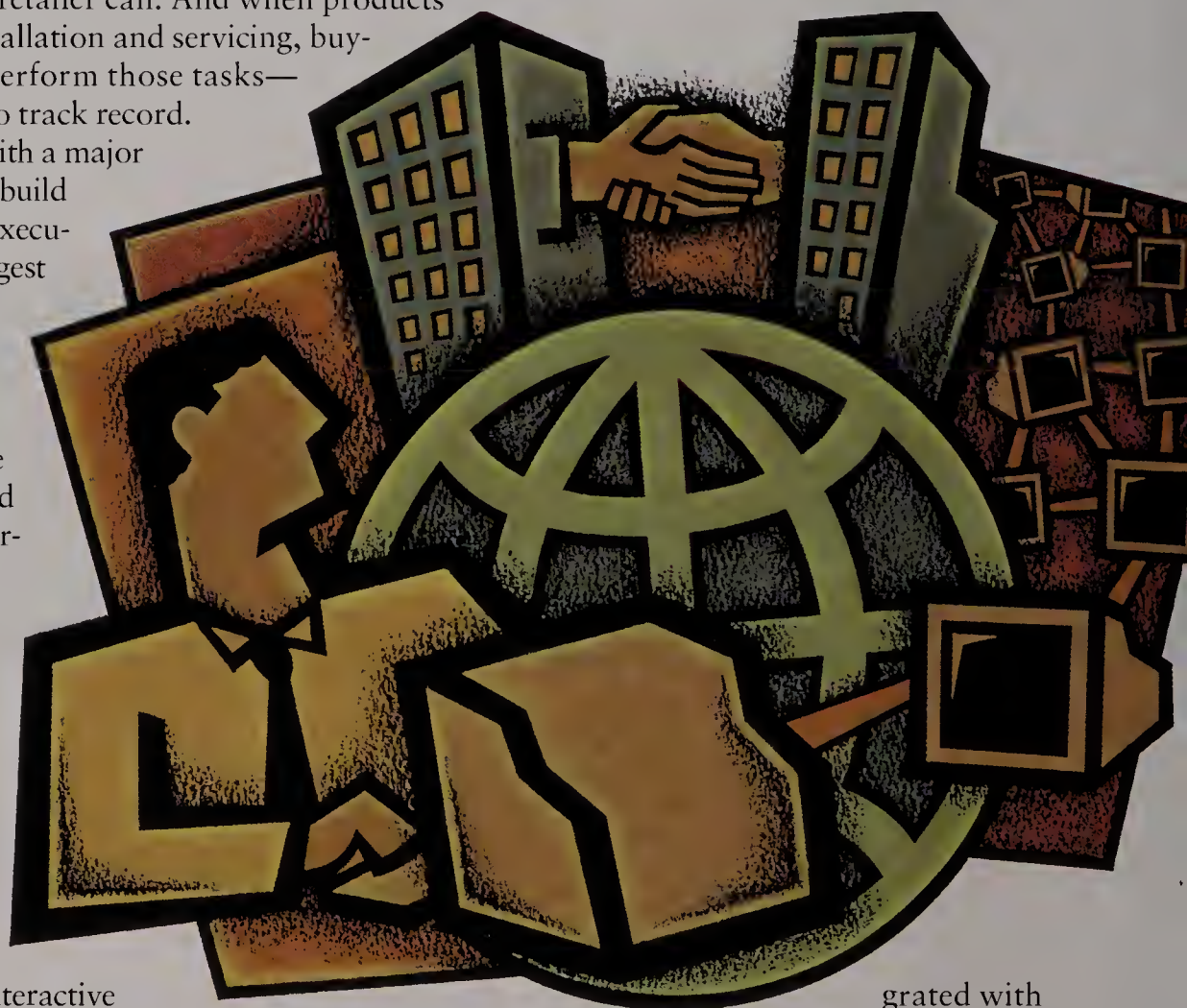
the Web to strengthen—not erode—long-standing relationships with their channels.

Why Not Eliminate the Middleman?

It's not that I'm opposed to a direct-sales model. After all, the big success stories of the Web to date have been companies like Music Boulevard, Amazon.com, L.L. Bean and Dell, all of which have achieved phenomenal success by selling direct. But such uncomplicated sales models are rare. Answering the following seven questions will help you decide whether to join the direct-sales ranks:

■ Do you currently sell products through a catalog?

■ Are your products simple in nature (no configuration required, not inte-



grated with products from other manufacturers)?

■ Is your sales process clear-cut and nonconsultative?

■ Are your products easy to install and maintain?

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■ Is your infrastructure designed to support direct sales (fulfillment, returns, service)?

■ Do customers usually know they want to buy your product, without first getting information about competitors' pricing and product benefits from a third party?

■ Are you ready to promote your Web site enough to attract sufficient prospects?

If you answered yes to those questions, put down this magazine and begin constructing a commerce site immediately. The Web is your oyster, baby.

If, however, you answered no to more than one, selling direct is likely to be an uphill struggle—one that probably doesn't make sense in the short term.

Love Your Channel

Learning Express is a chain of 115 franchised educational toy stores across the United States. The Ayer, Mass., company has a very basic Web site right now, but it's planning to launch an online storefront in early 1999. How will it avoid provoking the ire of its franchisees? Learning Express intends to share the wealth.

"Whatever kind of commerce on the Net we do, it has to be for the benefit of our store owners," says President Steven Manfredi. "It may be corny, but our philosophy is that we owe our success to them and that will carry forward into this medium." Manfredi, who sees the Web as a way to help his franchisees begin reaching a global audience, says that Learning Express will take a royalty on all Web sales (just as it does with retail stores) but will distribute the bulk of revenues to franchisees.

There are other ways to use the Web to reinforce the manufacturer/channel partnership. Jackson Products, a St. Louis company that makes safety goggles and welding gear, does sell directly through its Web site. That lets it reach artists and do-it-yourselfers who buy in quantities too small to be of interest to Jackson's network of distributors. But if an online shopper tries to make a purchase over \$1,000, the site will automatically refer him to a real-world distributor.

Tumi Inc., a luggage maker in Middlesex, N.J., took my shoe company's idea for a directory of retailers a step further. "Any time someone looks up a store on the site, Tumi counts that," says Lee Smith, marketing director for Snickelways Interactive, the New York City firm that

built the site. "That way, Tumi can go to the Bloomingdale's luggage buyer and say, 'This is how many times the store in The Mall at Chestnut Hill came up for consumers. They've spent years developing

Reports on the demise of the channel have been greatly exaggerated.

those relationships with retailers," Smith adds. "So they believe that their long-term health is dependent on that channel."

Investigate Software Solutions

Software products designed to promote channel concord are just beginning to hit the market. The idea? Big companies like Cisco can write their own code to support channel partners on the Web, with such features as configuration info and current prices. But what if yours is a smaller enterprise? Some out-of-the-box solutions look promising.

"Ninety-nine percent of the problems manufacturers have with channels are caused by bad information flow," says Gary Whitney, vice president of marketing at Portland, Ore.-based Webbridge Inc., which offers a channel-management software product. "The channel needs to know the current prices, what promotions you're running. The Web is the ideal way to make sure the channel partners are part of that information flow."

Webbridge's product lets companies customize information, such as pricing, to specific resellers and distributes leads in a way the manufacturer can specify. Genesys Communications Laboratories Inc., a San Francisco-based company that makes software for call centers, uses the Webbridge product to "provide a good level of product information without opening the kimono too far," says Joe Ruck, Genesys' director of strategic alliances. "Our partners need sales and technical info because they're doing a tremendous amount of integration." On the other hand, Ruck adds, it's important not to give away too much information, especially the kind that's more useful to competitors than to customers. The ability to deliver well-tailored information thus works to the advantage of both parties.

Other software products focus on doling out leads and improving forecasting—two areas that can be strained when com-

munications with channel partners are poor. "Companies should be taking advantage of the Web as a way to quickly and efficiently distribute leads," says Chris Heidelberger, CEO of Channel-

Wave, a software company in Cambridge, Mass. "The manufacturer should be able to route leads to channel partners and then get basic information back from the channel: 'What's the status, when is [a sale] likely to close, what kind of equipment are we selling?' That makes your forecasts more accurate. And...if you do all that over the Web, you can reward the partners who report the status of leads with—what else?—more leads."

How Customers View the Channel

The forgotten party in Web strategizing is often the customer. What benefits does the channel deliver to actual customers? How can you use the Web to help enhance the relationship between customer and retailer and perhaps play up your own brand name in the process? Creative answers are just starting to emerge, but there's much to gain in pursuing channel concord rather than sparking channel conflict.

"There's just no substitute for feet on the street and the ability to slavishly serve the customer," says Eric Mehler, vice president of marketing and intellectual property at MSI Consulting Group, a Seattle-based firm that focuses on channel issues. "The knee-jerk reaction to the Web is, 'Hey, this is a great way to reach my customers directly.' But that's a complex path, and it doesn't work for a lot of companies. There's a lot more to be gained by helping channel partners execute on their core competencies."

In short, reports on the demise of the channel have been greatly exaggerated. In the Internet era, most companies still need distributors, integrators and resellers, and few have used this new medium to develop stronger relationships with them. It's up to you. **CIO**

Scott Kirsner is a Boston-based writer and consultant. He can be reached via e-mail at kirsner@worldnet.att.net.



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Pay Dirt

For many companies,
virtual bills can cut the
cost of billing in half and
sell to customers even
as they pay.

BY ALAN S. KAY





“IMAGINE THIS,” says Mike Seppi, product manager, electronic bill presentment and payment services at Cap Gemini America, the U.S. subsidiary of

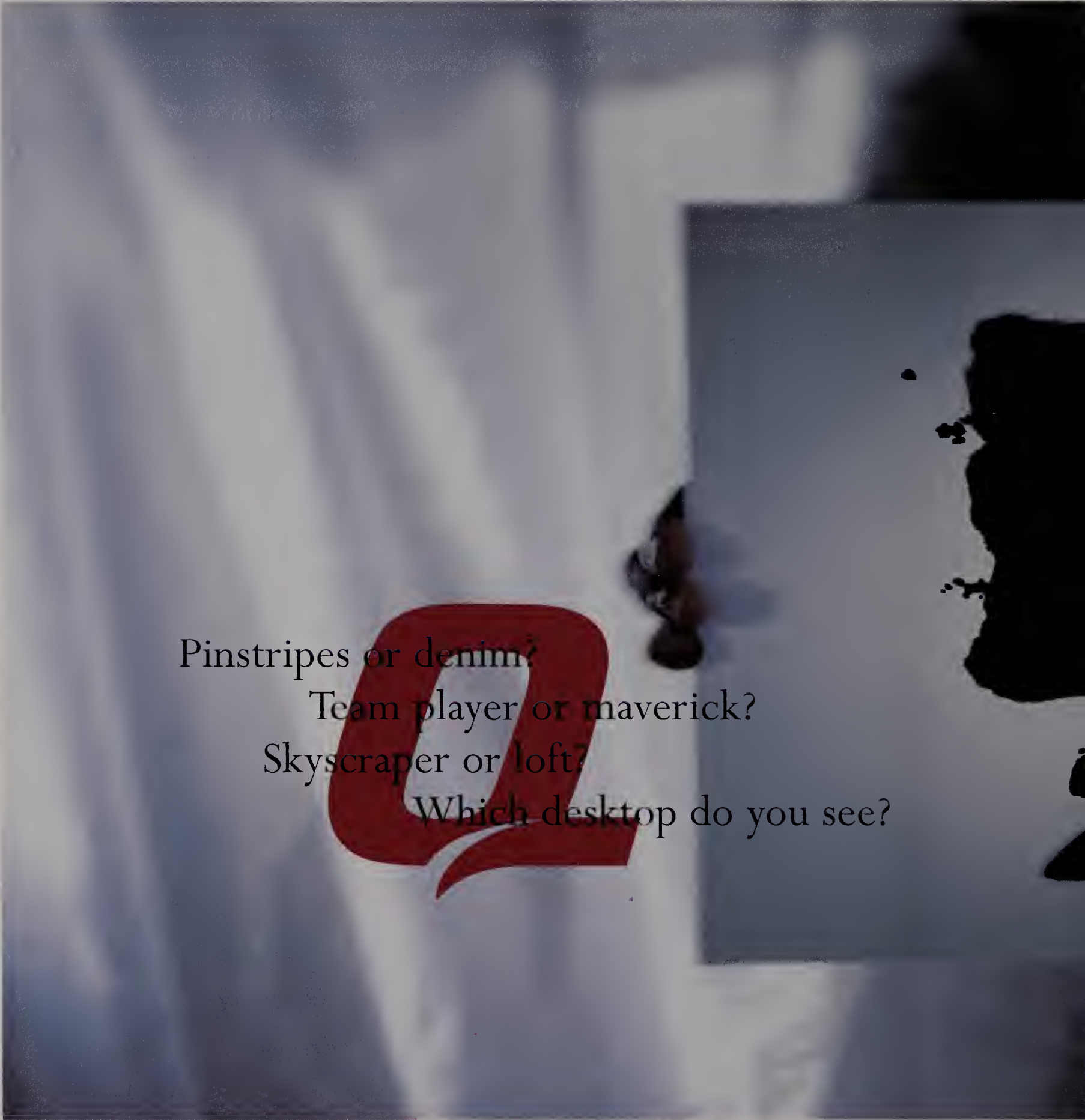
the global systems integrator. “I tell you that I’ve got a great idea: Let’s cut a hole into the wall of a bank and put in a machine that will take the place of a teller. The consumer will walk up to the machine, put a card in, and it will hand out cash. What would you think?”

Now, 25 years after ATM machines have changed the habits of Americans, financial services and technology companies are partnering to deliver the next giant step in the financial relationship binding consumers, their banks and the companies that supply them with goods and services: the delivery of bills on the Internet. In the consumer sector of the U.S. economy, companies issued 18.7 billion bills in 1997, for a combined total of about \$3.23 trillion. The Tower Group, a Newton, Mass.-based financial services consultancy, reports that processing those bills cost the billers more than \$32.4 billion

Reader ROI

IN THIS STORY, YOU WILL LEARN

- ▶ How to save money by billing customers via the Web
- ▶ Which data model and vendor best suit your company
- ▶ How electronic bills can build stronger customer relationships



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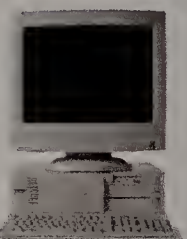
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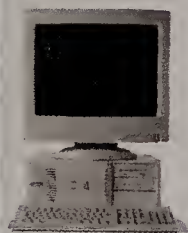


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(or roughly \$1.75 per bill) and cost consumers paying those bills another \$11.5 billion.

"A presented bill today for an average biller—one that's not AT&T but still reasonably sized—costs the biller about \$1.20 per bill presented and paid. In Wells Fargo's experience, it's reasonable to expect

these bills will be presented electronically by integrated back-end systems for about 30 to 50 cents each," according to Dudley Nigg, executive vice president of online financial services for Wells Fargo Bank in San Francisco, which is now testing a virtual billing program.

Peco Energy, a gas and electric utility company that serves cus-

tomers in the Philadelphia area and southeastern Pennsylvania, sends out about 80,000 bills each day. Charles Gunn, an analyst for the company, estimates that the round trip on each of those bills costs between \$1 and \$1.75. Peco is now planning to use the services of MSFDC, a joint venture of Microsoft Corp. and First Data Corp., to generate bills electronically and make them available on Web sites. "We could save quite a bit of money," says Gunn. "They're talking anywhere between 25 and 35 cents to get a bill out."

GartnerGroup Research Analyst Geri Spieler says the move toward electronic bill presentment (EBP)—the creation and delivery of a bill that a customer views as an image on a computer screen rather than by looking at a paper copy received in the mail—is money-driven; predictably, the impetus is coming from corporate financial executives. The savings come not only from reduced processing costs but

from cutting the float time for both outgoing bills and incoming payments. If electronic payment is integrated into the process, cost reductions will also be realized as the number of "exceptions"—lost or misdirected mail, payments lacking the bill stub or payments that for some other reason require manual handling—plummets. And if online bills are designed to allow the customer to "drill down" to the details of specific transactions simply by clicking, customer service costs could be cut as well.

Many business executives and analysts say that those cost reductions, though real, aren't the only driving force behind the move to Internet billing. Electronic billing also offers an opportunity to interact directly and one-to-one with the customer, and to deepen and broaden the customer relationship.

"It would be disingenuous to say cost was not at least a consideration in considering Internet billing," says Kirk Browne, product manager, enhanced billing services at BellSouth Billing Inc., the Birmingham-based billing arm of the Baby Bell. "But it was never the driving force. EBP, he notes, makes it possible to link the bills to potential revenue enhancements. "We have the ability to advertise goods and services on the Internet and to provide online ordering as well as to support online inquiries—to be able to take the whole interaction to a new level."

AT&T has long been interested in electronic bill presentment and has been offering the service as part of its One Rate Online package since March. "In the electronic world, they're coming to us, and coming when they're ready to come to us," says Kevin Duffy, the manager of consumer billing strategy at AT&T in Basking Ridge, N.J. "So the customer is in the mood to interact with AT&T. We can use this opportunity to provide targeted marketing to a group of one; you can't do that in a paper world."

DRIVEN BY POTENTIAL cost savings and new marketing potential, electronic bill presentment has suddenly

The actual cost to consumers of paying bills by today's methods is only about \$3 to \$5 per month per household for checks and postage.



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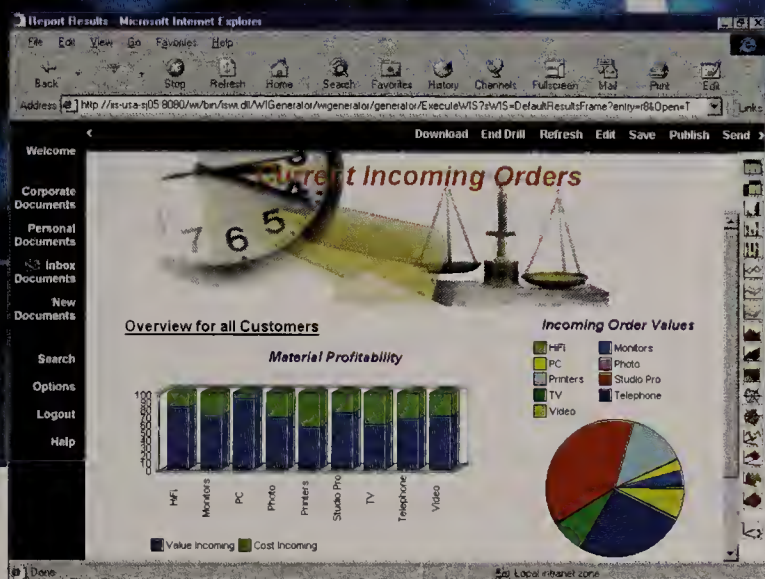
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become a very hot topic. It's also a complex undertaking because it involves identifying EBP customers, flagging their billing data, converting it to an HTML format for Web display and then placing that data as needed on the company's and/or third-party Web sites—not to mention establishing channels for electronic payment of those bills. Then there are the links to the company's customer care systems and the databases needed to track customer activities and interests to support the new targeted marketing opportunities.

It's a big job, but Peco Energy's Gunn calls his company's target date of the first quarter of 1999 "hopeful" and says that it may have to be put on the shelf at some point until the company has IT resources available. At BellSouth Billing, Browne acknowledges that the decision to rely on Norcross, Ga.-based CheckFree Corp. for processing of the company's electronic bills was a time-to-market decision. CheckFree Vice President for Product Development Hayden Reed reports that of 30 billers the company was dealing with last summer, all but 4 had outsourced Internet billing operations to CheckFree.

Diverting the Data

WHEREVER THE SYSTEMS RESIDE, THOUGH, THE data to create those bills must be extracted from the company's billing system.

Because Florida Power & Light Co., headquartered in Miami and Juno Beach, Fla., had already EDI-equipped its billing system to feed data to commercial customers, it has been able to scale down that process and modify it to feed consumer bill data to CheckFree. BellSouth took a different

approach; it modified an existing software tool, created to allow customers to analyze their bills, to generate a data file in HTML format. Peco, faced with year 2000 challenges, chose what Gunn calls "the easy route" and went right to the

bill print stream, siphoning formatted bill data from printed bills.

"We could have written additional elements in the master file to pull the data out right after the bill calculation," he says, "but it would have been much more work. Also, like most utilities, these



are old legacy systems, and some of the programs in there you just don't want to tinker with if you don't have to."

An array of vendors and potential business partners are lining up to help companies access billing data and convert it to HTML for Web display. Some, such as BlueGill Technologies Inc. of Ann Arbor, Mich., and eDocs Inc. of Westborough, Mass., focus on the data extraction or conversion, while others—including International Billing Services, San Francisco-based Just in Time Solutions Inc., Total System Services of Columbus, Ga., Netscape Communications Corp. and Oracle Corp., offer data manipulation as part of larger solutions.

One necessary decision in planning deployment of Internet billing is where on the Web to place customer bills and how to get them there. Companies can choose either or both of two options: to place the bills on their own corporate Web sites and to make them available to bill publishers and consolidators that will put them on other Web sites—their own, other high-traffic sites and particularly the sites maintained by banks and the vendors of personal finance software.

Placing the bill on their own sites offers companies a number of benefits: It brings the customer to the company's branded site, which reinforces the relationship. Companies can control the information provided and how it's displayed and can provide direct links to customer service systems. No issues are raised for the customer about security or the privacy of his or her bill data, because no third parties are involved.

Unfortunately, what works best for the biller is not necessarily of great benefit to the consumer. As Dave Medeiros, group director of the wholesale banking group at The Tower Group, noted in a Feb-

Unfortunately, what works best for the biller is not necessarily of great benefit to the consumer.

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ruary 1998 report, "The actual visible cost to consumers of paying bills by today's methods is only about \$3 to \$5 per month per household for checks and postage. Therefore, electronic bill presentment and payment will be adopted by consumers only if the service is made more convenient, secure, affordable and easy-to-use than today's prevalent method—simply writing a check and returning it via mail."

EBP experts are aware that it's unlikely that a consumer who pays an average of a dozen bills a month will get excited at the prospect of having to visit each biller's Web site, deal with 12 separate payment transactions and manually record each payment in his or her personal financial records. It's much more appealing to think about visiting

a single Web site, checking over a list of bills, asking questions and examining detailed charges as needed and then paying them each with a mouse click, with those transactions automatically recorded.

Online bills get to banks and other third-party

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sites today through a set of intermediaries that take the billing data, format it and make the bills available on their own and other Web sites, collecting a fee for each bill-related transaction.

The insertion of a third party into the relationship between biller and customer troubles some EBP experts because it removes the opportunity to build a stronger relationship.

Two data models shape the relationship between billers and consolidators. They also delineate the two companies that at the moment appear likely to dominate the consolidator market.

In the "thick" consolidator model, the biller provides complete summary and detailed billing data to the consolidator, using proprietary interfaces and protocols. The consolidator converts the data into HTML and stores it on its server, using it to generate bills on its own and other Web sites. In the "thin" model, the biller provides only summary data to the consolidator and does so using a protocol based on the Open Financial Exchange, or OFX, specification. The consolidator puts the summary data into Web format, stores it and makes the summary bills available to third-party sites. When a customer looking at a bill decides he or she wants detailed information and clicks on the provided link, that customer is then shifted to a detail page at the biller's own Web site.

The thick model is offered by MSFDC and CheckFree. The thin model conforms to an industry initiative called Open Internet Billing that was proposed in June by AT&T, Intuit and Just in Time Solutions; it is one of the options available from CheckFree.

1.499
CREDIT
8%
information
DUE DATE
2 INSTANT



There are arguments to be made in favor of each model. The thick model makes sense for smaller companies that choose not to build and manage secure 24/7 Web sites and for those for whom time to market with an Internet billing solution is the primary consideration. The thin model will help a biller who intends ultimately to offer direct onsite billing by mandating the creation of needed infrastructure. It also safeguards a company's detailed customer data.

AS SEEMS TO BE THE CASE WHENEVER MICROSOFT enters a market, a faction has formed that is critical of the approach MSFDC has chosen. The debate centers on a traditional hot button issue: open standards.

Analysts say open standards are important to allow billers to keep costs down by creating just one system to transmit bills to publishers and consolidators. There is broad support for basing those systems on OFX-Pres, the bill presentment section of the OFX standard. A potential competitor, The Gold Standard, proposed by Integrion Financial Network LLC, a partnership of 18 North American financial institutions, Visa USA and IBM Corp., is currently being merged with OFX.

CheckFree supports the thin model, where only summary data is being delivered, using OFX-format data transmission. But MSFDC doesn't support the thin model. Despite the fact that Microsoft was one of the creators of OFX in 1997, MSFDC implements OFX only partially; to get bill detail data from billers, it uses a proprietary Biller Integration System that requires an NT-based server at the biller site. MSFDC argues that OFX is too restricted in its functionality to support its data-rich application.

In a June 1998 "Planning Assumption" report, Giga Information Group industry analyst Erica Rugullies noted, "Many financial institutions are holding back on implementation of OFX solutions until MSFDC and CheckFree show that they can cooperate. Despite CheckFree's efforts to work with MSFDC, MSFDC claims to see no need for interoperability testing and does not foresee exchanging bill data with CheckFree. However, technology providers as well as billers are exerting significant pressure on MSFDC. Giga believes in the next 12 months MSFDC will switch to a more open strategy, including use of OFX between itself and billers, and the exchange of bill data with CheckFree and other EBPP service providers."

There are other deployment issues as well; chief among them is how to tie customer care systems into the new billing setup so that call center representatives can see what customers are seeing. Most

companies are putting off grappling with that issue by publishing to the Web a bill that's identical to the printed bill. At the same time, they're working to make those Web sites smarter, trying to anticipate consumer questions by providing self-care links.

An Early Adopter Market

INTERNET BILL PRESENTMENT HAS ALL THE hallmarks of an early adopter market. Early pilot implementations are everywhere, but no single technology dominates, and many involve proprietary solutions. Those that are available today offer only limited functionality and aren't taking full advantage of the Web's potential. But it won't take long to reach critical mass. When a consumer can access four, five or six bills on the Web, the market is likely to skyrocket.

Many of those early adopters are getting to market quickly by planning multistage projects, initially outsourcing much or all their bill presentment processes, then building resources and gradually pulling the components in-house. "Do it in stages; there are some really good integrators out there who have some knowledge of working with this stuff. It's a great way to get something done and save on some of your resources," Gunn advises.

Jane Wallace, senior vice president of payments at Bank of America's Interactive Banking Division

Many financial institutions are holding back on implementation of OFX solutions until MSFDC and CheckFree show that they can cooperate.

in San Francisco, offers two bits of advice: Be sure your investment is in a system that will give you the widest reach possible, and understand what your migration path is. "There should be an exit plan," she says.

But AT&T's Duffy urges that you not wait too long. "Everything in the Internet is moving really quickly. Don't sit back and wait for the market to be mature; customers will want it." **CIO**

Alan S. Kay covers business and consumer technology from San Francisco. He can be reached at ask@well.com.

ON THE

BY ANNE STUART

A little money can go a long way toward building a functional—if not fancy—intranet

dorothea eiben

didn't have much in terms of resources when she launched her campaign to establish an intranet at Genzyme Corp. No budget. No staff. And initially little support from management. "We

built the entire thing using a summer intern," recalls Eiben, the associate director of information services for the Cambridge, Mass.-based

Reader ROI

IN THIS STORY, READERS will learn

- ▶ How to build an intranet with little or no funding
- ▶ About the trade-offs between expensive and low-cost intranets
- ▶ How to turn early intranet successes into ongoing support

Genzyme Corp. got an intranet for the cost of a summer intern, says Dorothea Eiben, associate director of information services.



CHEAP



COVER STORY: INTRANET DEVELOPMENT

biotechnology company. As the company phased in its intranet in the summer of 1996, "you could see [the intern] learning," Eiben says. "The day she learned about frames, all our pages had frames." By September the intern was a veteran developer—and, for the cost of her summer job, Genzyme had its intranet. Today the Genzyme Information Exchange, dubbed Genie, provides 3,500 employees in 40 branches worldwide with access to everything from industry headlines to a corporate year 2000 compliance database to personalized stock-option data.

The intranet at insurance giant Chubb Corp. started out as sort of a hobby, a do-it-yourself project, for a just-out-of-college mainframe programmer and some friends who, purely out of curiosity, tinkered with the project at home nights and weekends. "They found an old PC someplace and converted it to a Web server," downloading the server software and operating system from free sites on the Web, recalls B.C. Verniero, assistant vice president of marketing and electronic commerce. Then the programmer, James Walter Martin III, asked to move the project into the insurance giant's Warren, N.J., headquarters. "He went to IT and said, 'Do you mind if I bring in Unix and do a couple of things on my desk that won't hurt anybody?'" recalls Verniero, himself a former IT staffer. "He put together a prototype of what became our intranet." The prototype didn't do much: "It kind of served as a home page for employees to access the Internet," providing pointers to relevant online resources, recalls Don Garvey, also an assistant vice president. But it did lure people into the intranet concept—and up to that point, it hadn't cost Chubb a dime.

Since those humble beginnings, both projects have evolved into full-fledged intranets that play a major role in the two companies' business strategies. Genie now provides Genzyme employees with a wealth of previously unavailable industry news, research and regulatory information, helping employees stay a step ahead in their hotly competitive industry. And Chubb's intranet, now known as ChubbNet, provides about 10,000 employees worldwide with access to e-mail, human resources materials, international insurance regulations and customized information for functions such as claims handling and underwriting. But the companies' early experiences illustrate an often underemphasized facet of internal Web site development: It's possible to launch an intranet—nothing overly sophisticated but perfectly serviceable—for very little money. In fact, "you

can do it for nothing," insists Harold Wolhandler, vice president of market research for ActivMedia Inc., a Peterborough, N.H.-based Internet research firm. "It's more a question of how much elbow grease versus how much you use off the shelf."

Of course, the deal comes with fine print. If you spend zilch, relying on castoff equipment, shareware and Web developers who work on their own time, you won't get a state-of-the-art intranet that's the envy of your industry. (On the other hand, maybe you don't need one.) More important, once you've launched an intranet, you must maintain and grow it, investing in hardware, software, training and salaries for full- or part-time dedicated staffers.

A growing number of companies apparently consider those expenses worthwhile. A study by International Data Corp. of Framingham, Mass., a sister company to CIO Communica-

For B.C. Verniero (standing) and Don Garvey of Chubb Corp., a prototype helped lure people to the intranet concept.



tions Inc., indicated that of about 15 top American and European companies surveyed, all either had corporate intranets or planned to develop them (see "Inside Everywhere," *Threads*, CIO Section 2, Sept. 1, 1998). Among business-to-business companies of all sizes (as opposed to business-to-consumer companies), Wolhandler says, one in six has

PHOTO BY WEBB CHAPPELL

an intranet. And despite some executive resistance—many view intranets as low-priority projects, ranking well below e-commerce and year 2000 efforts on IS to-do lists—that ratio is expected to keep rising.

Normally, intranets are a relatively high-ticket item. Companies not taking the shoestring approach currently spend \$50,000 to \$150,000 to get started, says Ken Burke, president of Multimedia Live, a Web development company based in Novato, Calif. It's not the number of users that determine cost. It's the features.

Companies that want to put their policies online will pay less than companies that use the intranet for e-mail, transaction-based benefits applications or collaboration. Putting confidential information online requires additional security—and additional expense.

It's possible to build an intranet for \$3,000 to \$4,000, says Christopher Mega, president of NetImpressions Inc., an Internet outsourcer in Maynard, Mass.

For that price range, companies can expect to get a server and a few basic tools, and still have enough cash left over to train an employee on HTML authoring. That will provide "a minimalist version of a functional intranet," Mega says. The trade-offs: No fancy graphics. No leading-edge applications. No sophisticated navigation. And nobody responsible for trouble-shooting or upgrading. "Who's going to reboot when it crashes?" Mega asks. "Who's going to figure out how to password-protect something? Who's going to figure out how to add the next thing?"

Both intranet developers and executives at organizations that launched low-budget intranets have plenty of advice for doing the job without breaking the bank. Some recommendations differ little from the common-sense advice for any Web project: Establish priorities. Involve management early. Ordain an evangelist. Set short- and long-term goals. But other suggestions are less obvious, even counterintuitive. For instance: Make an intranet operational as soon as it works, no matter how humble it is, and tell people to expect it to evolve. "You don't have to hit home runs. You can hit a lot of singles and doubles and get tremendous paybacks," says Max Mayer, president and CEO of Internet Business Advantages Inc. (IBA), a Concord, Mass.-based Internet strategy firm. "The payback you get in the early phases can fund the later phases."

The following eight recommendations from intranet veterans—corporate executives, project champions and outsourcers—describe how to cut costs without cutting corners.

WOO I.T. When human resources executives at Arbella Insurance Group of Quincy, Mass., pushed for an intranet, Hildy Stover, the company's vice president of information systems, reacted with reluctance. "I accepted this request with

some fear because I'm in a major transition with all our applications," including year 2000 work and an enterprisewide conversion to Pentium PCs, Stover says. "We saw this as not a particularly mission-critical project." But the human

resources team convinced her that an intranet would provide an easy, elegant way to reach one of her own goals: finding a way for headquarters to

quickly communicate with the company's

1,000 employees who work in 10 branch offices or on the road.

They also found an outsourcer that could do the job for \$25,000 requiring no new hardware, minimal training

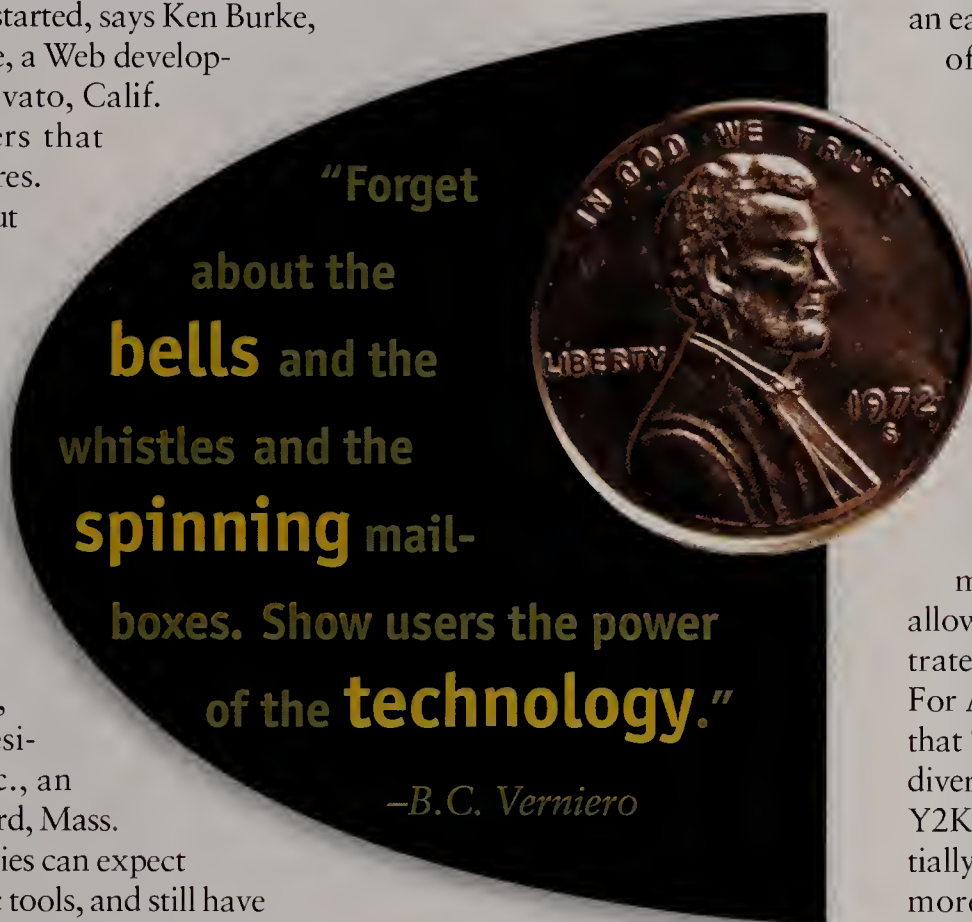
and little direct involvement by Stover's staff, which

allowed the IT group to concentrate on more pressing projects.

For Arbella, the main issue was that "we didn't want anything to divert our IT staff away from the Y2K conversion," which potentially could cost the company far more money than the \$25,000 spent on the intranet, says Ellen Hoadley, vice president of human resources. And while it

seems Arbella could have saved thousands of dollars in outsourcing costs, the company balanced that expense against the cost of reassigning and training an existing employee who probably couldn't have delivered an intranet in anything approaching the team's time frame.

KEEP it simple. That's a lesson Mega had to keep in mind when NetImpressions designed an intranet for its own parent company, Harpell/Martins & Co. Public Relations of Maynard, Mass. The 40-person public relations firm wanted its employees to be able to collaborate on the PR and ad campaigns in progress, but they didn't need the technically and graphically complex sites NetImpressions designed for its larger clients. "We had to step back from that to do our own Web site," Mega says. "It had to be more like, 'Go here, edit this, push this button and it's done.' We basically had to scale back to keep it simple and have it run itself." That simplistic approach applies to navigation and design as well. Remember those frames that Genzyme's student intern added to the intranet? User fascination quickly turned to frustration because pages took too long to load. Consequently, the intranet team dumped them. "Forget about the bells and the whistles and the spinning mailboxes," advises Chubb's Verniero. "Show [users] the power of the technology. Change workflow for the better." One example: Chubb developed a prospecting system for international clients that would have taken at least six months to launch worldwide, requiring massive disk mailing



or establishing a local area network. By putting the system on ChubbNet, the company "literally deployed it overnight," Garvey recalls. After that, getting support for the project was no problem. In fact, Garvey says, "It was the easiest sell I've ever done."

TIE it in with an existing IT initiative.

Arbella's intranet required no hardware purchases because the company already planned to roll out new PCs for all desktops within the year. "The fact that there was [relatively] low cost made it much easier to convince management" to invest in intranet development, Stover says. Genzyme also slid Genie's development into a year-long effort to switch to leased desktop hardware worldwide.

USE ready-made tools. Intranet teams can expect to spend \$100,000 or more to custom-develop systems for handling employee benefits, says Multimedia Live's Burke. But for about \$6,000, a company can buy Benemap, a prepackaged product from Lifemap Communications Inc. of Walnut Creek, Calif., which installs in minutes and offers the same functionality. Another company, ZLand Inc. of Santa Ana, Calif., offers several plug-and-play tools for intranet applications for everything from press releases to management.

No budget for tools? Start with shareware and prove its value—and then seek funding in future budgets, or push to have intranet-related savings funneled back into intranet development and upgrades. That's what happened with ChubbNet. Developers initially equipped the intranet with the Linux operating system and Apache server software, both downloaded free from the Internet. "Once the [intranet's] value was seen, we could go back and get some dedicated hardware and upgrade from shareware to shrink-wrap," recalls Garvey. And those companies that outsource intranet construction should ask their hired guns whether costs can be cut by having company employees do some of the finishing work, like HTML coding or using off-the-shelf page-builders to design individual pages.

RECYCLE and repurpose. Try to reuse as much as possible—not just hardware, as Chubb did in developing its ChubbNet, but existing Web knowledge as well. "People often forget to leverage their Internet expertise," says David Burk, president and CEO of Clear Ink, an

At Arbella Insurance, Hildy Stover (left) and Ellen Hoadley balanced outsourcing costs against training and redeployment expenses.



Like any
Web project,
low-budget
intranets, if done
correctly, are
forever a work in
progress.



Internet strategy and development firm in Walnut Creek, Calif. "Go to your company's [public] Internet site and see what's there." Use the graphics. Use the links. Use the talent. Without realizing it, many companies may also have some Web tools in hand. The standard Microsoft Office suite, for instance, includes an option for saving documents in HTML.

GO for small wins. "If you try to create [the intranet equivalent of] Amazon.com in one fell swoop, you'll be delayed and lose a lot of credibility," warns Clear Ink's

PHOTO BY JOHN RAE



COVER STORY: INTRANET DEVELOPMENT

Burk. Instead, he and others say, go for something quick, sweet and simple. "It's not necessarily the big business-related functions that do the trick," says Ken LeBlanc, IBA technical project manager, who worked on the Arbella project. "Sometimes it's the basics." In Arbella's case, a simple application targeted by the intranet developers was an enterprisewide employee phone list. That's hardly innovative by intranet standards, but because the company had never previously stored all that information in one place, the intranet version was new, different and wildly popular. At Genzyme, half of a librarian's workday was spent producing a daily executive news briefing of up to 30 hard-copy pages. The intranet team replaced the newsletter with an electronic version, published on Genie and pushed to subscribers by e-mail. The e-newsletter—timelier, more comprehensive and personal-

ized, with built-in links—won raves from both its executive audience and librarians whose time was freed for more interesting projects. Other features likely to qualify as easy early wins: online suggestion boxes (if responses are prompt), employee chat rooms, automated time sheets and anything that reduces paper.

BALANCE design and control. It's generally cheaper in the long run to construct one companywide intranet than to let people create any number of individual pages and subsequently try to herd them into a single coordinated site. At Genzyme, intranet development "was centralized initially because that's easier to do than train people in the technology and concepts" of Web page management, Eiben says. But if doing it again, she'd opt to teach people to design and maintain their own pages from the start. It's simply more cost-effective. But others say that approach leads to the right hand not knowing what the left hand's doing. On ChubbNet, for instance, "the claims Web site is great. The operations Web site is great. The underwriting Web site is great," Verniero says. "But if you're in claims and you want to know about a particular underwriting question, you're going to look awfully hard and probably not find what you need. The sites were designed for the

audiences they were serving, not for Chubb as a whole." Chubb's now aiming for a more enterprisewide approach by indexing pages for cross-functional use.

FOLLOW up. Asked to describe the biggest mistake, intranet veterans all give the same answer: Failure to keep developing the site. In some cases, managers emphasize the site's launch, but not ongoing maintenance and updates. Once online, an intranet "gets pushed to the back burner, three stoves down," says Pat Harpell, president of Harpell/Martins & Co. Public Relations. Or the project's sole champion disappears, leaving an intranet that degrades into "a ghost town," says Clear Ink's Burk. That can do more damage than having no intranet at all, particularly if it's employee information—such as vacation-day tallies or 401(k) account balances—that's outdated. As Harpell notes, "When it's personal information, people take it personally." If an intranet isn't maintained, whatever money was spent to launch it was wasted.

Like any Web project, low-budget intranets, if done correctly, are forever a work in progress. At Genzyme, which still has no formal intranet budget and relies largely on volunteer labor, the intranet team has paused to catch its breath and consider its next steps. "We're slowing down development because we can't meet demand," Eiben says. "We're revisiting the idea of a [central executive] steering committee. We haven't had a corporate discussion yet around whether we have a corporate site or 200 corporate sites, whether we have standards around publishing content or not." Meanwhile, Chubb's intranet quickly moved away from its underground beginnings to become part of a consolidated electronic commerce department covering electronic messaging, publishing, intranet and Internet initiatives. Six to 10 staffers work full-time on intranet projects, and the network reaches 90 percent of the 10,000 Chubb desktops all over the world. "In the future, ChubbNet will become the desktop," the source for all company operations, Verniero says. "That's clearly the direction we're going, from communications tool to strategic resource. They may be baby steps, but we are moving down the path." **CIO**

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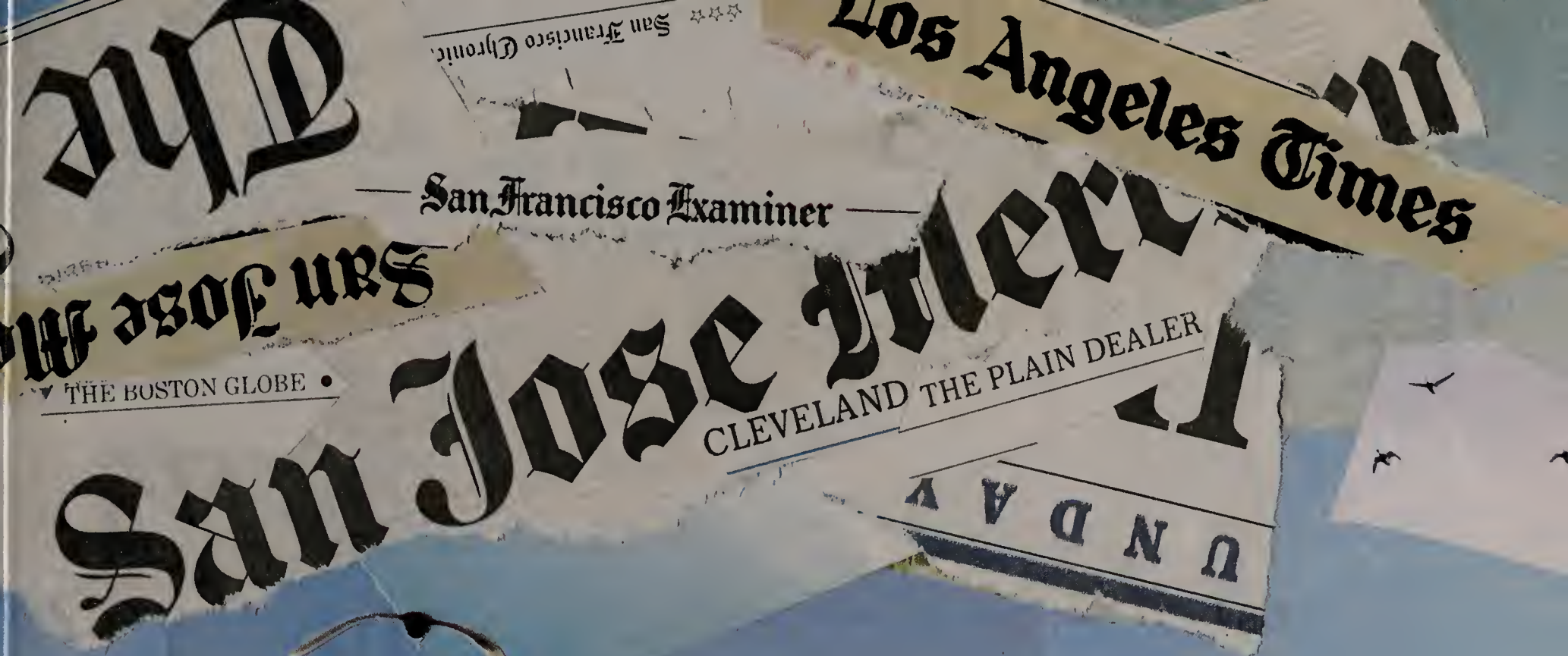
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STRATEGIC PARTNERSHIPS



FOUR OF THE TEN MEMBERS OF THE NCN BOARD:

(from left): Harry Chandler, Peter Winter, Al Sikes and David Hiller.



That Sinking Feeling

When they saw the Web coming, nine of the most powerful newspaper publishers in America knew they had to do something. They just couldn't agree on what it was.

BY SARI KALIN

LIKE MANY AN ONLINE AFICIONADO, Charles Brumback took his first look at the Web through an early download of the browser Mosaic, some time around 1993. What the then-chairman, president and CEO of the \$2.7 billion Tribune Co. saw through Mosaic was the Web's future for his business. And he saw a way for the newspaper indus-

Reader ROI

IN THIS STORY, READERS will learn

- ▶ That new media demands new rules
- ▶ The dangers of co-opetition
- ▶ Why big names and big bucks don't guarantee success

ILLUSTRATIONS BY TOM NICK COCOTOS

try to own a chunk of that Web business: Band together and pool their content to make something "attractive and important to anyone accessing the Internet." Brumback, who had been in newspapers for more than 30 years, confesses he didn't have a concrete plan for how newspapers would make money through this idea. But he feared that if newspapers didn't act, they could lose a lot of money, especially with new competitors like Microsoft Corp. delving into interactive services. "People were going to get some of their information and entertainment through this new media," he says. "Our classified [ad base] was at risk."

NCN's initial goal was to help get even more papers online and offer local content and services, such as sports scores and shopping, entertainment guides and electronic mail. The theory was that the structure would be beneficial for readers, national advertisers and "affiliates," local newspapers that would join the network. Readers would get a one-stop clearinghouse with access to all of America's hometown newspapers. National advertisers would be able to buy ads through the network and reach local online audiences with a one-stop shop rather than having to strike ad deals with each affiliate indi-

poorly trafficked news hub Web site, an advertising network that was just starting to pick up steam and a handful of other content projects in various stages of completion. By last March, when NCN partners agreed to pull the plug, national news sites were a dime a dozen. Web surfers turned to search sites like Yahoo to find their way around the Web as well as get their headlines and sports scores, stock quotes and free e-mail. Microsoft's Sidewalk, AOL's Digital City offerings (in which Tribune was a partner) and other city-oriented guides were going after the local content market. Today most partners don't even want to talk about it. (Former board members from Advance, Knight-Ridder, Tribune and The Washington Post all declined to be interviewed for this story, while a former board member from Gannett was not available for an interview.)

When you ask some of NCN's former owners and employees or online media pundits why this high-profile strategic partnership went south, most offer some variant of this answer: Too many cooks spoil the broth. Former CEO Lee de Boer notes that the company came together at a time when there wasn't much consensus in the industry on how to approach the Web.

"Without that consensus, when you had the industry in a microcosm on the board, it's particularly tough to run the business," says de Boer. Other observers will tell you that NCN would have done better to limit its focus from the start on building the advertising network and that it should never have been in the content business. One observer, however, says NCN's problem lay in the very premise that nine cooks could benefit equally from a for-profit business cooperation in the first place or that cooperation in a "Web content cartel" was better for their businesses than competition.

"What are the odds that [the nine companies] are going to have converging stakes?" says Michael Schrage, a research associate at MIT and a Merrill Lynch Innovation Fellow. "The more successful they would be, the more reasons they would have

The board's lack of consensus revealed a split between those who believed NCN should be a fast-moving company responding to the new market and those who viewed it as a trade association.

The same fear moved Brumback's publishing peers to join him in an ambitious plan that, for the traditionally insular newspaper industry, was uncharacteristically chummy: creating a national network of local online newspaper services via the Net. New Century Network (NCN), the joint company, announced on April 19, 1995, was founded by eight of the largest and most powerful newspaper companies in the United States, who together owned 185 newspapers that reached a Sunday circulation of 23 million: Advance Publications Inc., Cox Newspapers Inc., Gannett Co. Inc., The Hearst Corp., Knight-Ridder Inc., The Times Mirror Co., Tribune Co. and The Washington Post Co. The New York Times Co., a star noticeably absent from the opening day marquee, joined the following month.

vidually. The affiliates themselves would get technical assistance, even group-negotiated discounts on technology. And like a television network, the affiliates would also be part of a two-way promotional engine, whereby they would drive traffic onto the network and the network would drive traffic to them.

On a handshake, NCN's founders ponied up \$1 million each for the venture. They picked an interim CEO and charged him with writing a business plan that would keep all nine happy. With their combined clout, their cash resources and their decades of expertise in old media, the partners thought, NCN had to be a winner. They couldn't have been more wrong.

Three years, a total of about \$25 million and an untold number of board disagreements later, all that NCN had to show for itself was a



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S E E F A R T H E R

to argue and break off and go their own way."

Bill Bass, Forrester Research Inc. senior analyst in Cambridge, Mass., sees NCN's Achilles' heel in its founding mission: figuring out what was best for the newspaper industry online. Given that most of the partners were more than newspaper companies—Cox, for example, had strong radio, television and cable holdings in addition to its newspaper business—what was best for the newspaper industry might or might not be best for the individual partners around the board table. Says Bass: "That's a recipe for disaster."



The first signs

that owners couldn't agree on a recipe for the company's success came less than a year after the debut press release. Brumback had announced he would retire from Tribune Co. by the end of 1995, and a few NCN board members asked him if he would consider being NCN's chairman or CEO for a year or two to get it off the ground. Brumback said he would but only if the board approved a business structure he'd had in mind from the start: adding the Silicon Valley-based venture capital firm Kleiner Perkins Caufield & Byers as a tenth owner, with an eye toward an eventual IPO. If that happened, he reasoned, NCN could recruit top talent with the inducement of stock options. Plus, Kleiner Perkins, an original investor in Netscape Communications Corp. and other hot technology firms, had Internet savvy that NCN sorely needed. "They had their hands on the real creative use of content that the newspaper industry didn't have," Brumback says.

A few board members who, Brumback says, "saw the future properly" were receptive to the Kleiner Perkins idea. Most were not. And at a discordant board meeting in Miami, the proposal was shot down. The board's lack of consensus revealed the fundamental split between those who

believed NCN should be a fast-moving company responding to the new market and those who viewed it as large cooperative—or, as Al Sikes, president of Hearst New Media, puts it, "a trade association acting somewhat defensively as the new market emerges." In the end, it was neither defensive nor fast.

NCN's interim CEO Peter Winter, who was then vice president of market development at Atlanta-based Cox Newspapers and was later named president of Cox Interactive Media Inc., continued to work on a business plan that would satisfy all the partners. National advertising would bring in revenue, especially once it became clear that almost no publishers would charge for Web content. But classified advertising never made it into the mix, Winter says, largely because NCN's partners were too "chicken" to give up control of such a potentially lucrative revenue stream. "In hindsight," Winter says, "that was probably a mistake."

Meanwhile, in October 1995, six newspapers—Times Mirror's *Los Angeles Times*, *The Washington Post*, the *Chicago Tribune*, The New York Times-owned *Boston Globe*, *The New York Times* and the Knight-Ridder Inc.-owned *San Jose Mercury News*—struck out to form a classified site of their own, a recruitment ad site called CareerPath.com. "Once CareerPath got started," says Forrester's Bass, "NCN couldn't do anything in help wanted."

It took an entire year from the announcement date for NCN's board to settle on a business plan and pick a permanent CEO, former HBO International president de Boer, whose experience developing content and wooing affiliates appealed to them. By that time, AOL had launched Digital City, a business unit that would deliver local news, weather, sports, event calendars and classifieds, and Microsoft was a few months away from divulging word of its own local entertainment and listings sites, code-named Cityscape (and later renamed Sidewalk). CitySearch launched its first local-services-oriented Web site in May 1996. Even Yahoo, the Web guide that had gone from grad-

student hobby to hot public company in a mere two years, had begun to get local content fever.



De Boer started

work in New York City in June 1996, and he set about hiring the staff that would make this high-profile venture hum, charging ahead on three fronts: signing up newspaper affiliates to the network, building a revenue stream from national advertising and developing content applications that the affiliates' Web sites could use, including a national gateway site that would drive traffic to affiliates' Web sites. NCN's board, never one for acting quickly, took until late January 1997 to settle on a final agreement for affiliates to sign. Affiliation fees were modest, ranging from under \$2,000 a year for the smallest newspapers to roughly \$30,000 a year for papers with print circulation of over 500,000. In return, affiliates got access to NCN's content, advertising network, promotion and software discounts. Susan Bokern, NCN's vice president of affiliate relations, managed to sign up 150 affiliates, including some papers not owned by NCN's founders.

De Boer chose Tom Bates, who had run the international edition of *USA Today*, as senior vice president of advertising and charged him with building a revenue stream. Bates says when he joined in October 1996, NCN was looking to develop vertically oriented sites that would aggregate affiliates' content on topics such as cars, as well as develop a general news gateway site to its affiliates. Since those efforts clearly would take a while to get off the ground, Bates started on an advertising project that would get money into the affiliates' pockets right away: building a nationwide online advertising network that could reach deep into local markets. NCN would sell some ad space on the affiliates' Web sites and would serve and track the ads as they ran on those sites. Simplicity was the draw for

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STRATEGIC PARTNERSHIPS

national advertisers, like IBM: They could give Bates one order for online ads on as many or as few of the NCN affiliates' Web sites as they wanted, receive one bill and get one set of tracking statistics. Exposure was the draw for affiliates: They would attract national advertisers who might not have taken the effort to negotiate individually with 10 or 20 sites that reached only regional audiences.

The affiliates had to agree to set aside a certain amount of standardized ad inventory that Bates would be able to sell, independently price (most ads sold in the \$20 to \$40 per thousand views price range) and serve. The affiliates would give NCN a sales commission and promotional fee of about 20 percent—lower than some other networks, Bates says, which could charge up to 50 percent. "It was not a great moneymaker for NCN alone, certainly not at those percentages," Bates says of the network. "But [it was] delivering immediate value to affiliates, and it [started] getting us in front of advertisers."

On the content front, de Boer picked John Papanek, former editor in chief at Time Life Inc., to try to carve cutting-edge online products out of content produced by the network affiliates' 25,000 journalists. Papanek, who declined to be interviewed for this story, had an impressive media résumé, including stints as *Time's* first director of new media and as managing editor of *Sports Illustrated*. As NCN's senior vice president and editor in chief, he was the chief architect behind NCN's first content product and the product that caused the most friction among its affiliates: the NewsWorks Web site. Despite the "news" emphasis in the site's name, none of the journalists hired to NCN's editorial staff spent their time breaking news. They instead built "content packages"—collections of links to stories from different affiliates' Web sites on a particular topic or event, such as the Unabomber trial, plus a paragraph or two of text to put these linked stories in context. When users clicked on a story link, they would move to the affiliate's newspaper site, but the NewsWorks navigational frame remained on top. The site also

had a search engine for the affiliates' newspaper sites.

NewsWorks was intended to be a "hub," or a gateway, that would pull content from the affiliates in the network and drive traffic back out to them. Yet even before it launched, there were signs that not all affiliates liked the idea; indeed, some would later see the site as competing with their own. The New York Times decided not to include its own flagship paper's content in NewsWorks

NCN—never really got fired up. Affiliates did link to the site, but many of them put the NCN button on the bottom of their home page, sometimes without much explanation. "Internet screen real estate is extremely valuable," says Peter Levitan, president and CEO of Advance Communications-owned New Jersey Online, which had the NCN button on the lower part of its home page. "You're going to want to hype your own service before you

Because of its relatively light traffic, NewsWorks never had much appeal for advertisers.

because it wanted to establish its own Web site as a standalone, national brand. Gannett Co. Inc.'s flagship national paper, *USA Today*, was also not part of NewsWorks. Still, on launch day, June 30, 1997, NewsWorks' young editorial staff members felt like they were part of a new era in journalism. For the past few weeks, they had been putting in 12 hour days. They were so elated, one staffer recalls, they didn't even feel tired. Papanek shook everybody's hand.



Less than two

months later, those staff members learned that Papanek would be leaving: *ESPN Magazine* had picked him to be vice president and editor in chief. And his creation, NewsWorks, was trying to find a niche on the Web. True, NewsWorks traffic had been increasing each month (at its best, in October 1997, according to Media Metrix, the site had a 1 percent reach, meaning that about 1 percent of Web users visited the site from home). But a major promotional engine that NCN had counted on—traffic from affiliates' sites that would link to

hype someone else's, in particular if...[it's] sending people off your site."

Because of its relatively light traffic, NewsWorks never had much appeal for advertisers, Bates says. They were more interested in the ad network, which brought in most of the \$1 million in ads sold in 1997. NCN looked to strike up outside distribution deals for NewsWorks as a way to pump up the volume and drive traffic out to affiliates' sites. But those kinds of deals were expensive; Bokern recalls that portals were asking \$5 to \$15 million to give NewsWorks a prime link. Clearly, however, portals were drawing the kind of traffic and ad revenues that NCN wanted for its newspaper affiliates, de Boer says. So NCN began looking at ways to bring that navigation capability to its affiliates, either through building its own Web search and directory technology or doing a deal with a portal company.

There were other plans too, such as an HTML e-mail service giving customers a daily Web page "front page" or other customized content. Another was a complete redesign of NewsWorks that would improve the in-house publication system and make it easier to cobrand or syndicate NewsWorks content to its affiliates.

The multiple projects required lots of "intellectual bandwidth" and out-

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side consultants, according to former NCN development editor Mark Lazen, since NCN needed the outside help to compensate for the lack of deep Web experience internally. "It was a constant process of trying to come up with something that the board would clap their hands at and begin to build it," Lazen says. "Given the diverse interests of the board, by the time it was in prototype stage, the board was on another planet."

By Thanksgiving, rumors abounded that one partner or another was going to pull out of the next round of funding. The partners had already kicked in a total of roughly \$25 million (Winter says the partners kicked in a total of about \$3 million each throughout NCN's lifetime; The New York Times, however, contributed only to the first round of funding, according to a spokeswoman there.) They were also investing heavily in their own Web plans, both singly and in joint ventures; in December, for example, Tribune, Times Mirror and the Washington Post announced they were forming Classified Ventures LLC, a company that would develop vertically oriented classified advertising sites (their properties now include apartments.com and cars.com; they have also signed on other former NCNers Knight-Ridder and The New York Times). Still, the top executives tried not to let on that anything was awry. At Christmas, one exec personally sprung for bottles of champagne for his entire staff, as a token of his appreciation for their hard work.



But hard work,

as the editorial staff members were soon to learn, was not what it would take to satisfy the partners. What they wanted was ROI. On Jan. 7, NCN cut 10 percent of its 70 employees, laying off 7 people from its content and operations groups. Both in the media and in the company, NCN execs portrayed the layoffs as a minor restructuring that would help sharpen its focus. NewsWorks staffing would be trimmed

on weekends, and fewer packages would be produced, but affiliates were assured that most readers would not notice dramatic changes in the site. De Boer, in an e-mail, told staff members NCN would continue working hard on the advertising network, the HTML

the partners just wanted to put an end to a venture that they were starting to regard as competition. "They probably lost track of the simple fact that their competitors were not newspapers from other markets," Winter says. "Their competitors were nation-

Some of the partners just wanted to put an end to a venture they regarded as competition.

e-mail service and on finding a way for NCN affiliates to get navigation capability, including discussions with Web portal partners. "As we move into 1998," de Boer said in the e-mail, "we are reminded that change is the constant companion in the Internet business."

Given the uncertainty about whether the board members would decide to keep NCN alive, Bokern says, NCN's execs decided that they would not collect affiliate fees for 1998. The content staff completed NewsWorks' redesign, but they feared that it would never launch. It never did: Later that month, on Feb. 25, NCN decided to pull the plug on original content development for the NewsWorks site—and cut the roughly 20 editorial positions related to it. NCN had come close to pulling off a deal with CNET Inc. over Snap, a portal that would have given NCN affiliates a way to add Web navigation capability to their sites. But the board narrowly rejected it because of what one board member called investor fatigue: The partners didn't want to throw any more money off the bridge.

After that defeat, de Boer was still trying to keep NCN afloat, even in a scaled-down fashion. The ad network was a bright spot with \$2 million on the books for 1998, and the HTML e-mail service sounded promising. But according to Cox's Winter, some of

al portals going local." In a final board meeting, held via a conference call instead of face-to-face, the board members voted to liquidate.

The e-mail to staff members just after lunch on Monday, March 9, said it all in its subject line: "No pizza this time." Just a meeting in an hour in the Tech Room. A grim-faced de Boer told the remaining 40 staff members that the board had decided to shut down the company. "The message basically was it wasn't a reflection of the work anyone had done on the project," says Evan Davies, a former technical project manager there. "The message was...that the partners couldn't agree on what they wanted NCN to be doing."

As the company wound down, NCN promotional items—mugs, T-shirts, chili packages with hot sauce—were doled out among the staff. When it came time to liquidate the venture's more substantial assets, Digital Deliverance's President and CEO Vincent Crosbie was interested in buying the HTML e-mail program that his company had designed. But the program was packaged with other NCN assets, including one that three years earlier had been the pride of most of the major newspaper publishers in the United States: the company's name. No one, Crosbie recalls, would go near it. **CIO**

Senior Writer Sari Kalin can be reached at skalin@cio.com.

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Patents increase the cost of travel on the information highway. Where is the e-commerce government when we need it?

BY BRETT N. DORNY

THE INFORMATION SUPERHIGHWAY IS SUPPOSED TO PROVIDE wide-ranging and inexpensive access to large amounts of information. The Clinton administration has encouraged the development of information exchange and electronic commerce and has been pressing to reduce costs for use of electronic communication and commerce. Yet at the same time, the administration is responsible for increasing those costs, by issuing patents on technology used to access information on and to operate computer networks.

The effects of patents on computer access to information and electronic commerce are just starting to appear. That's because most patent applications remain unknown for years while pending in the Patent Office. Applications filed several years ago, as the Internet began to develop and grow, are just now being issued. For example, Excite announced a patent last year (U.S. Patent No. 5,577,241) on its search engine and asserted that other search engines could be infringing. Patents like those will limit the opportunity for the public to have totally free access to information on the Internet, and those limits are likely to increase.

While some patents, such as that issued to Excite, seem proper as being directed to novel developments, others seem ridiculous. U.S. Patent No. 5,794,207, for example, was recently issued to Priceline for its buyer-driven commerce system. This patent could severely limit the use of electronic commerce. More significantly, it suggests the possibility of other patents that will further limit operation of the Internet. The current position of the Patent Office and the courts, which set patent policies, with respect to patents on computer-based inventions will necessarily result in many more extremely limiting patents. That's a problem. As compa-

nies strive to standardize procedures for distribution of information and for sales using the Internet, the possibility that they will step on someone's overly broad patent is one more obstacle in the road to widespread e-commerce.

Priceline (www.priceline.com) filed its application in 1996, as electronic commerce was just starting to grow. Now, when electronic commerce is more firmly entrenched, the patent is granted, and that award threatens to thwart the growth of electronic commerce.

The company's Web site permits a buyer to choose his or her own fare for airline tickets. The buyer inputs the desired destinations and fare. The system then markets that fare to various airlines. If any airline agrees to the fare, a deal is struck. Clearly, the essence of this system is the relationship with the airlines, not the operation of the system on the Internet. In order to operate such a system, Priceline needed to set up a process for notifying airlines of the requested price for a flight, and the airlines needed to be able to accept requested fares. Once the communications mechanisms are set



ILLUSTRATION BY JAMES YANG

At the verge of the 21st century, companies must leverage the enormous opportunities continually created by technological advancements to better meet the intense demands of complex information networks, an increasingly dynamic global economy and the never-satisfied customer. In effect, the channels of information distribution and the ways companies have customarily added value and organized their work have been deeply impacted by IT.

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up, the system can function as intended. While Priceline uses a Web site, the process could just as easily use traditional communication mechanisms, such as a telephone. It could also work for any commodity. In fact, Priceline is now expanding its services to include automobile sales. In its system, the intermediary (Priceline), which has a relationship with the providers (the airlines), receives a contact from a customer. The intermediary then contacts the providers to attempt to make a deal. There is nothing unique about the use of the Internet to handle the communication. It is the use of a network of computers that allowed Priceline to get its patent.

Priceline's patent covers its marketing system as embodied in a computer. The claims, which define what the patent covers, recite a method for using a computer to facilitate a transaction between a buyer and seller. The buyer inputs a conditional purchase offer into the computer and a payment identifier, such as a credit card number. The computer outputs the purchase offer to sellers. A seller can then input an acceptance, at which time the payment is made using the payment identifier. There are also claims for an apparatus that can perform the same functions. At a first pass, it appears that much of electronic commerce could fit within Priceline's patent. If so, Priceline could extract a royalty for use of its patent on all commerce over the Internet or over any other computer system including proprietary systems.

There are many issues yet to be explored with respect to Priceline's patent. To appreciate them, it helps to understand how the Patent Office could issue a patent on a system that is little more than business relationships communicated using a computer. Until recently such a patent would have been rejected.

In 1982 Congress formed the United States Court of Appeals for the Federal Circuit, which was given jurisdiction for all patent appeals and was intended to aid a patent system that was clearly in need of help. Before the formation of the Federal Circuit, patents were often found to be invalid and rarely found infringed. It was commonly rumored that while the Eighth Circuit Court of Appeals acknowledged that a valid patent might exist, it had never seen one. The Federal Circuit took control and changed all

that. In addition to taking a pro-patent stance, the Federal Circuit has also been very active in asserting its views. These days, approximately 50 percent of all appeals heard by the Federal Circuit are reversed. The Federal Circuit's strong position on patents has proved difficult for computer-related inventions.

The rise of the Federal Circuit coincided with a rise of importance and uni-

are to be considered like any other inventions, i.e., they are to be compared to the prior art to determine if they are a novel machine. Further, it stated that a computer programmed to operate in a new manner is considered a "new machine."

Unfortunately, the Federal Circuit's position is that the Patent Office, which must examine every application, is not well equipped to determine whether a

The Patent Office has had few people with any experience in computers.

versality of computers, an industry that has had a tenuous relationship with the patent system. Computers, particularly computer software, have not fit well in the existing protections for intellectual property. To some extent, both patents and copyrights have been used to protect software, but determining whether computer software was patentable, and if patentable, what was covered, has not been easy. Part of the problem is that computer programmers as a group have expressed an aversion to patents. Programmers are excited about developments made by others and tend to copy efficient programming. They also enjoy the notoriety of having others copy their work.

Nevertheless, the Federal Circuit has been asserting its pro-patent position in the computer industry and continues to expand the scope of patentable computerized inventions. Through the years, the Patent Office and the courts have used two legal doctrines to limit patents based upon computer technology, prohibitions on patenting mathematical algorithms and prohibitions on patents for methods of doing business. In *State Street Bank v. Signature Financial Group Inc.*, a recent landmark decision, the Federal Circuit eliminated the exclusion for methods of doing business and significantly limited the scope of the mathematical algorithm exclusion. The Federal Circuit upheld the validity of a patent to Signature Financial Group, which accounted for the value of investments in its "hub and spoke" mutual fund structure. Like Priceline's patent, Signature Financial Group's patent did little more than implement an accounting process using a computer. In deciding this case, the Federal Circuit stated that computer-based inventions

computer has been programmed in a new manner. Historically, as computer-based applications began to be filed, the Patent Office did not impress the computer industry with its ability to analyze such inventions. The Patent Office had few people with any experience in computers and few up-to-date resources in its libraries. And the computer industry, for its part, did not develop a mechanism for distributing information about what things were done before. So today, without access to the prior work of others, the Patent Office regularly issues patents that the industry recognized as using generally known practices. And industry responds with an outcry like that heard when Compton's Encyclopedia announced that it had received a patent that covered computerized encyclopedias. The Patent Office, with the assistance of the computer industry, has begun to develop a collection of information on computer research and activities. One problem with that initiative is that the computer industry changes very rapidly; the patent office does not. It is likely that the Patent Office will always have difficulty keeping current.

Given the current position of the Federal Circuit and the limits of the Patent Office, it is likely that more patents similar to the one granted to Priceline will continue to be issued. And the costs of operating on the Internet will increase due to the limiting nature of the patents now being issued. **CIO**

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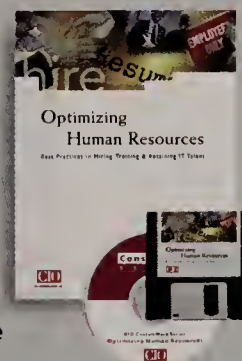


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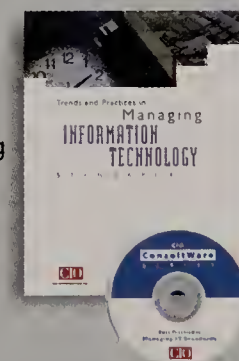


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Tools for Teamwork

Organizations turn to the Internet to share employee expertise

BY FRED HAPGOOD

IN THE PAST DECADE ORGANIZATIONS HAVE GRADUALLY realized they might be wasting one of their most valuable competitive weapons: pooled employee talent. The easy part is acknowledging that most people have skills, abilities and expertise exceeding those spelled out in their job descriptions. The trick is finding and collectively deploying those strengths where and when they're needed.

By the early 1990s several companies had begun addressing that challenge with "groupware" or "collaborative software," programs that built bridges between employees through features such as e-mail, message lists, form templates and shared or open file archives. In the mid-'90s, just as the market was beginning to catch on, it was broadsided by a flood of competing products built around Internet standards. These newcomers were cheaper (sometimes free) and easier to use while still offering the most helpful functions of the proprietary programs. The adoption of Internet-compatible clients and servers happened so fast that some analysts wondered openly whether the collaborative software industry could survive.

But the software vendors learned. More recently, they've introduced a new wave of collaborative products, most claiming to beat the Internet programs (such as Netscape's NetMeeting) on ease of use and open standards. And the newcomers seem to be meeting with some success: According to a recent study by Peterborough, N.H.-based Internet market research firm ActivMedia Inc. (www.activmedia.com), almost half the Web sites selling business-to-business products plan to install some kind of collaborative software this year.

"Two markets we see responding to higher ease of use are the consulting and high-tech sectors," says Chris Barclay, product manager for Instinctive Technology's eRoom (www.instinctive.com), one of the groupware programs marketing simplicity. The Cambridge, Mass.-based company claims that eRoom is so easy that a novice can install the program—including e-mail, messaging, archives, cross-format compatibility, polling, access control, version management, group edits, change notifications and more—in five minutes or less. "Consulting companies are interested in setting up workspaces dedicated to the care of specific clients over the long term—rooms that endure over the duration of the relationship, independent of a specific project," Barclay says. "High-tech companies want to support multiorganization

ILLUSTRATION BY ROBERT PIZZO



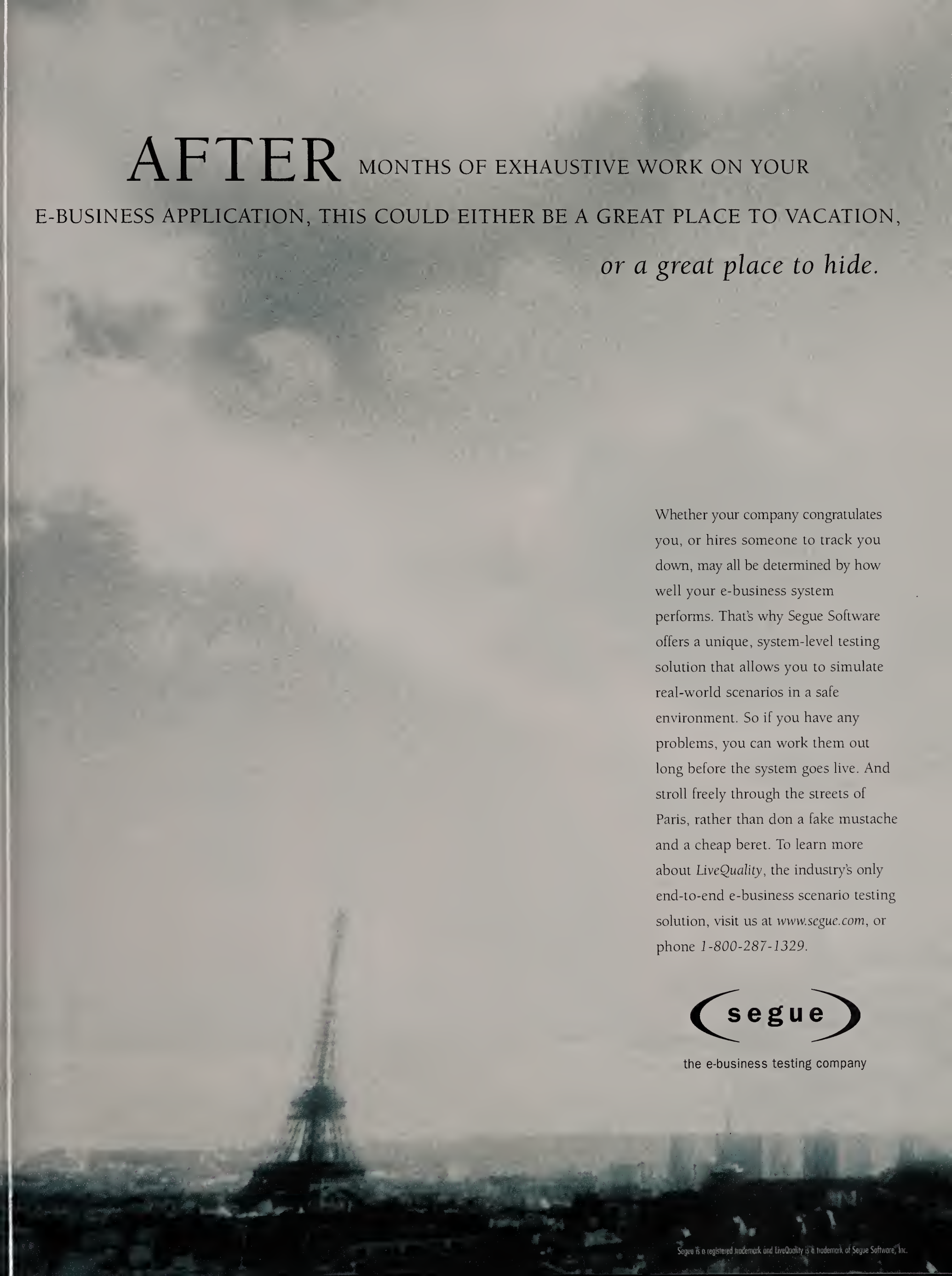
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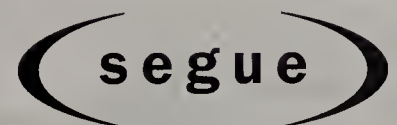
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AFTER MONTHS OF EXHAUSTIVE WORK ON YOUR
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project management, such as giving their development partners a common place to define, authorize and store specifications."

John Laughhunn, eRoom user and chief technology officer at management consultant A.T. Kearney Inc. (www.atkearney.com) in Chicago, calls the five-minute deployment claim about right but only for the most basic installation. He says his company uses the product to define "virtual workspaces" where the networks of corporate partners can connect without jeopardizing security. A.T. Kearney also uses

The high standardization of these tools weaves a single environment out of content residing on an individual's desktop, the company's intranet and files running on a distant server.

eRoom to support shared spaces for internal corporate divisions, such as technical support and network planning.

A second product intended to capitalize on the virtues of "instant groupware" is Lotus's Instant TeamRoom. "We see an interesting opportunity around what we call 'self-service' applications," says Steve Brand, general manager of small business solutions for Cambridge, Mass.-based Lotus (www.lotus.com). "Typically these are cases in which small groups of people distributed across a wide variety of computing environments need a common workspace immediately. They don't have time to get someone to set up an application for them." An example of such a market is virtual offices where vendors of professional services might meet with their clients.

When the geographically dispersed and highly mobile partners of Boom Vang Consulting (www.boomvang.com), a Lotus Notes consulting company based in Portland, Ore., were organizing their company, they used Instant TeamRoom to support their planning discussions. (John Pontefract, Boom Vang's director of marketing, even used Instant TeamRoom to

Graphic Content

New tools make it easier than ever to create just the right image

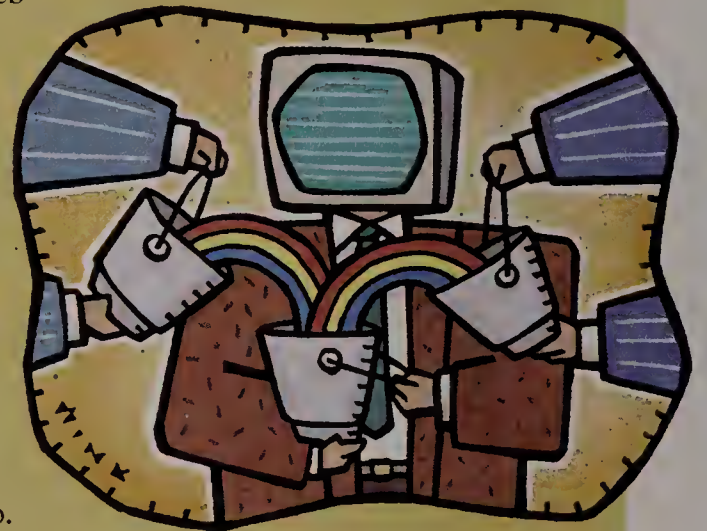
ALMOST ANYBODY WHO'S created a Web site graphic knows Adobe PhotoShop (www.adobe.com). And since these folks work on the Web, they're also familiar with PhotoShop's limitations as a Web production tool. The procedure's comparable to an old-fashioned fire brigade: creating one bucket in PhotoShop and transferring that bucket to another to optimize the graphic for the Web and to yet another bucket to animate the output.

Now along come three new Web graphic production tools: ImageReady from San Jose, Calif.-based Adobe Systems Inc., Fireworks from Adobe's arch rival Macromedia Inc. (www.macromedia.com) of San Francisco and one from newcomer NetStudio Corp. (www.netstudio.com) of Berkeley, Calif. All three software packages aim to make producing URL-usable graphics a little friendlier.

ImageReady works most like PhotoShop, as you might guess from their similar heritage. ImageReady's best feature is probably that its interface is essentially a subset of PhotoShop's, providing a less-steep learning curve. But there are other arguments for using this tool: Once a graphic has been completed in PhotoShop, ImageReady takes over, compressing, optimizing and animating the picture for the Web. It also helps automate the steps for creating image maps, allowing designers to place a link on a graphic, and has a batch-processing mode (called droplets) that permits a

whole folder's worth of images to be manipulated automatically.

The folks at Macromedia assume that users don't have access to PhotoShop, so they have stocked Fireworks with a full set of image creation and manipulation tools in addition to a broad selection of Web tools. Fireworks will do the heavy lifting of creating JavaScript code (which lets designers create



"rollovers," areas that change behavior based on cursor location). Macromedia also includes some nifty editing tools, such as the ability to place text along a curved path.

NetStudio's approach presumes that most intranet developers have no artistic skills. The company says its product, due to ship this fall, is for business users who need only know how to use Microsoft Office to become successful Web designers. Producing buttons, banners, backgrounds and bullets is easy. While the beta version isn't as full-featured as the other two, its mere existence signals that the old fire-bucket method of Web graphics production may be going the way of the historic fire brigade.

—Steve Singer



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plan his wedding. "My mom really took to it," he says.) Pontefract says TeamRoom can be ready to go in 30 seconds.

The high standardization of these tools weaves a single environment out of content residing on an individual's desktop, the company's intranet and files running on a distant server. HotOffice Technologies Inc. of Boca Raton, Fla., is taking the next logical step, selling a suite of groupware features as a "virtual intranet" service for small businesses.

New-wave groupware products can keep meetings—online and off—from wandering out of control, off schedule or off track.

HotOffice conducts all hosting, security, upgrade management, backup and maintenance on its own servers. HotOffice's customers and their customers' collaborators use desktop clients to connect to these workspaces.

"I'm out on the road all day," says HotOffice user Steven Sadaka, president and CEO of Weston, Fla.-based executive recruitment firm Steven Douglas (www.stevendouglas.com). "In my business, some positions can open and be filled in hours or less. I needed to be able to pull résumés and client statements up on my laptop from anywhere, anytime." At \$12.50 per user per month, Sadaka says, HotOffice was the cheapest way to do that.

New-wave groupware products can also keep meetings—online and off—from wandering out of control, off schedule or off track. IBM's GroupSystems, marketed by The Ventana East Corp. (www.ventana-east.com) of Johnson City, N.Y., lets users participate in real-time, whether they're sitting around the same table or logging in from cyberspace. Participants type ideas into their laptops; their comments appear anonymously on a single shared screen. "This gathers ideas and puts them on the table very quickly," says Jody Eckenrode, manager at KPMG Consulting in Harrisburg, Pa., who uses the software to assist clients with strategic planning, decision analysis and business process improvement. Once ideas have been discussed, participants can make decisions through consensus-building tools such as polling, rating and scaling schemes.

The Soft Bicycle Co. (www.softbicycle.com), based in Washington, D.C., promotes many of the same ends with a range of voting and tallying techniques, including rank-order voting, Olympic scoring and resource voting (in which participants rank alternatives quantitatively, in terms of a limited resource). In addition, the program identifies agreement clusters and the spread of votes away from the median. Soft Bicycle also makes QuestMap, which charts the relationships and history of topics being discussed, making it easier to spot irrelevant digressions and repetitions. A third Soft Bicycle product, DashboardAnyWare, lets a large number of users

BROWSER

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Those are just a few uses for **Netpodium Interactive Broadcasting Suite 1.5**, which lets organizations offer large-scale, two-way Internet broadcasts. Designed to work with any Internet-standard streaming audio or video product, the suite lets speakers interact with widely dispersed audiences of up to 400 people. Participants need only a Java-enabled browser to ask questions or respond to polls.

Components include Netpodium Builder for assembling multimedia content and the Netpodium Interactivity Server, which delivers and archives presentations.

Corporate prices range from \$795

for a 20-participant Starter Kit to \$9,995 for

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Advantageous Tracking

The new discipline of Web advertising can be bewildering. With the number of Web sites growing too fast to comprehend, it's difficult to know where to place your banners, let alone figure out what ad strategy will work. That's where **WebConnect** comes in.

The Internet media placement service, a division of Worldata Group, specializes in ad placement and tracking, leaving the creative work to clients and advertising agencies. "We work with everybody from Beanie Baby sellers to Lexus to 3Com," says Jay Schwedelson, WebConnect corporate vice president. WebConnect selects sites based on clients' campaign strategies and will place ads with any appropriate site unlike some Web advertising networks that restrict placement to a preselected membership.

Schwedelson says WebConnect's proprietary tracking system offers clients an easy way to monitor the effectiveness of both creative and placement strategies. For instance, if a client runs three ads simultaneously on a site, WebConnect monitors the amount of traffic generated by each individual banner.

For more information, visit www.webconnect.com or call 561 393-8200.

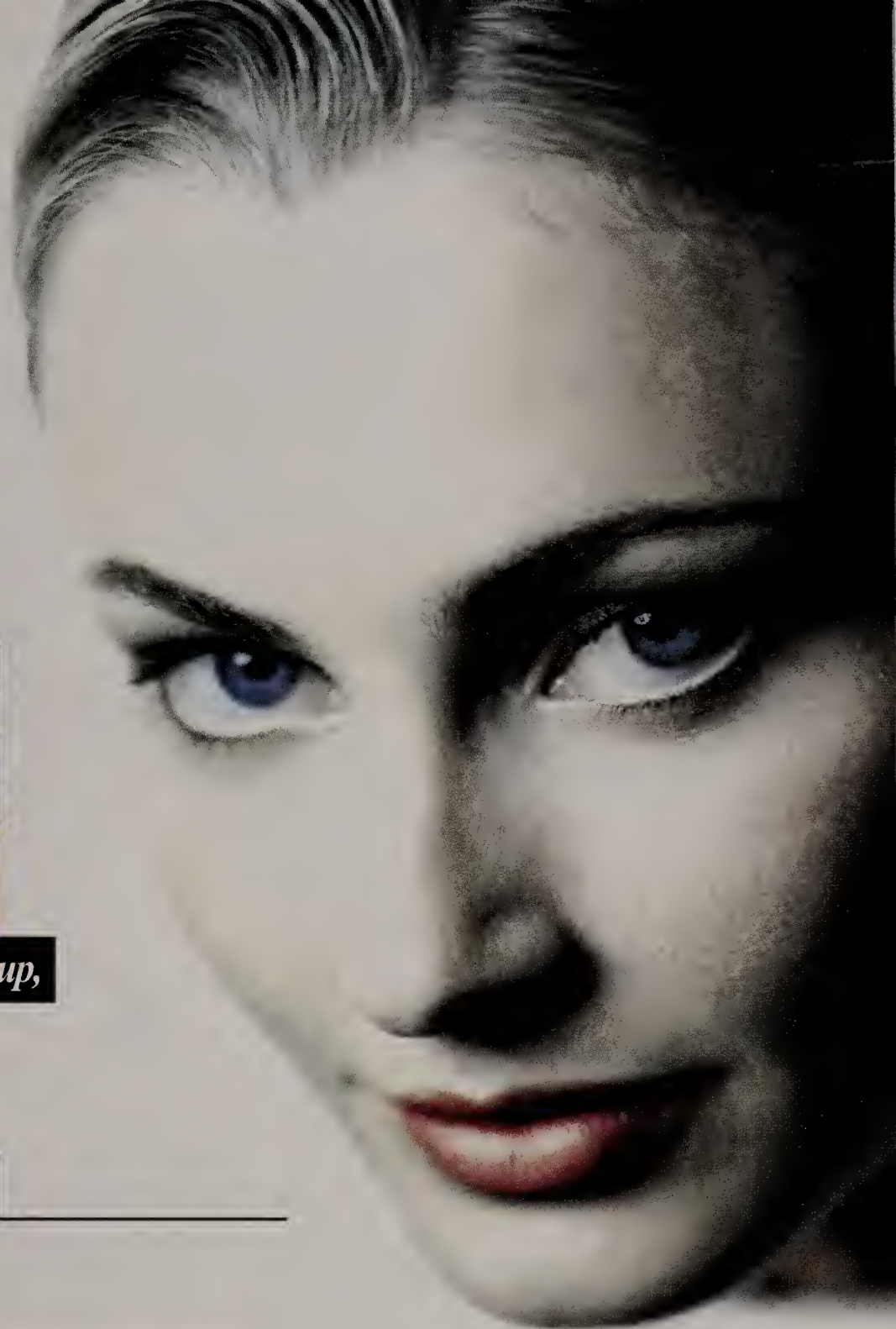


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easily monitor particular states or organizational conditions (such as finance, revenue, sales, customer satisfaction and personnel), usually through banks of color-coded lights set in a desktop window. For instance, the National Guard Bureau at the Pentagon uses QuestMap to track how close the Guard is to meeting a particular month's recruitment

"Often, what people want from a search query is not the material itself; they want to use the material to figure out who they should call to talk about the problem they have right now."

—Andrew Mahon

goals. Reports from various state offices are combined and associated with a color; that color is then distributed to all the desktops—potentially thousands nationwide—that are in a position to affect the numbers.

The new and prospective generation of products is also moving to incorporate new technologies, such as Internet telephony, videoconferencing, speech recognition and simplified yet secure connections with corporate databases. (An overview of an academic project on interactive multiuser business learning can be found at www.cadett.fi.edu.) However, the key point of collaborative software remains connecting the "islands of knowledge" represented by each employee for the organization's greater good, says Andrew Mahon, senior manager of strategic marketing at Lotus Development Corp., the company that really kicked off the groupware industry. "Often, what people want from a search query is not the material itself; they want to use the material to figure out who they should call to talk about the problem they have right now," he says.

Mahon predicts that products could soon appear that will accept a research issue, check through a database of documents to see who has read files relevant to the issue, and then return the names, e-mail addresses and phone numbers of the most recent readers, who presumably have the freshest grasp of the topic. "The point of structured collaborative environments is making connections and supporting interactions with people, not documents," says Mahon. He expects those issues to keep his industry busy for as long as people are working together. **CIO**

Fred Hapgood, a Boston-based technology writer, can be reached at hapgood@pobox.com.

BROWSER

Virtual Briefcase

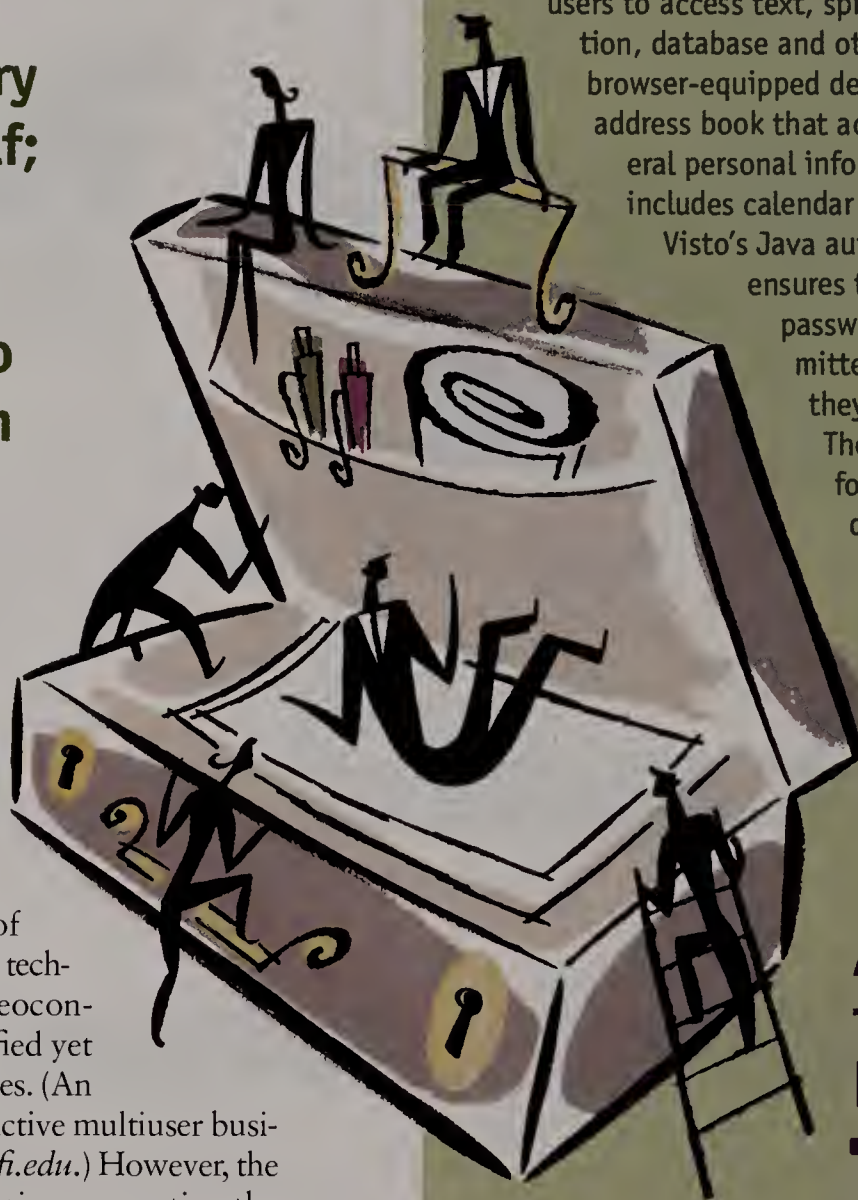
If you regularly juggle files between your office PC, your home PC and a laptop, you've probably cursed a blue streak at some point when a file you needed resided on a machine that you couldn't access when you needed it. Visto Corp.'s **Visto Briefcase** offers an antidote to that frustration.

Visto Briefcase works like a personal, virtual PC data storage box that users can access from any computer with a Web browser. The service allows users to access text, spreadsheet, presentation, database and other files from any browser-equipped device. It also offers an address book that accepts data from several personal information managers and includes calendar and e-mail features.

Visto's Java authentication feature ensures that user names and passwords don't get transmitted over the Net, where they could be intercepted. The service also uses SSL for data encryption and digital certificates from VeriSign. Clever idea.

Just remember to update the information regularly.

For more information, visit www.visto.com or call 650 961-2400.



Accounting for Every Penny

It's an accountant's dream: software that lets companies track and bill for Internet protocol (IP) applications such as Internet telephony and fax, online broadcasting, videoconferencing and "push" technology.

XACCTusage, from XACCT Technologies of Santa Clara, Calif., creates an itemized phone bill-style record of all IP activity. With that information, companies can bill individual customers, departments or users based on actual usage of IP-based services and applications rather than flat fees. Companies can also use the information for capacity planning and budget forecasting.

XACCTusage works by collecting usage information on all IP sessions from a variety of sources, including routers, switches, firewalls and Web servers. Pricing for the platform-independent software, bundled with a choice of database systems, begins at \$25,000. For more information, visit www.xacct.com or call 408 654-9900.

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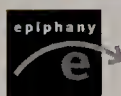
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Toronto

REASON FOR REDESIGN

Thomas Cook wanted to emphasize and promote the company's Virtual Trading Desk service and establish a destination site to attract repeat visitors.

DESIGNER

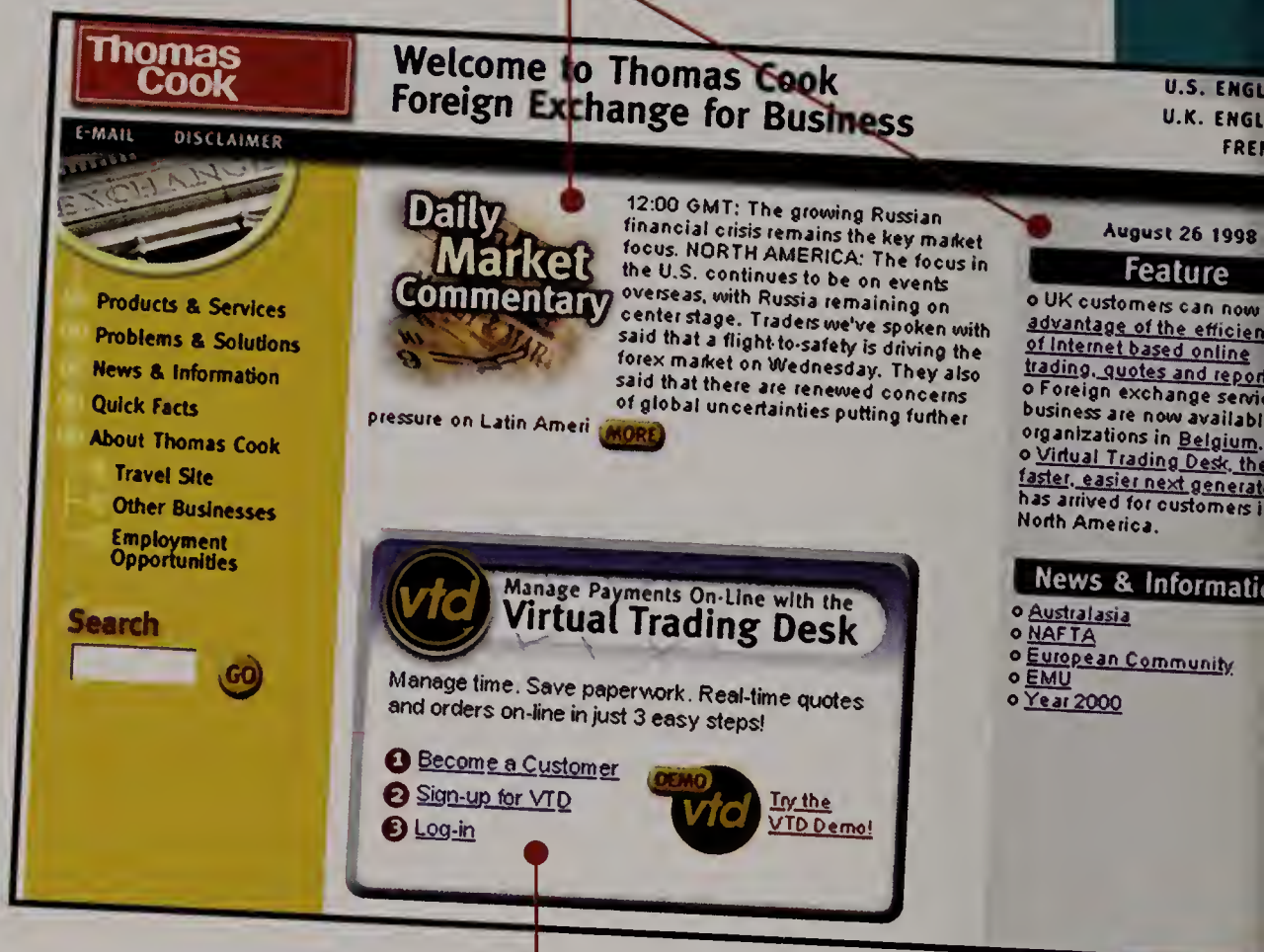
Bowne Internet Solutions, Toronto

QUOTE OF NOTE

"Since the relaunch of our site in July 1998, we've received on average two applications through the Web per day from corporations that want to sign up for our service," says John Telford, Thomas Cook Group Ltd.'s senior vice president of corporate foreign exchange.

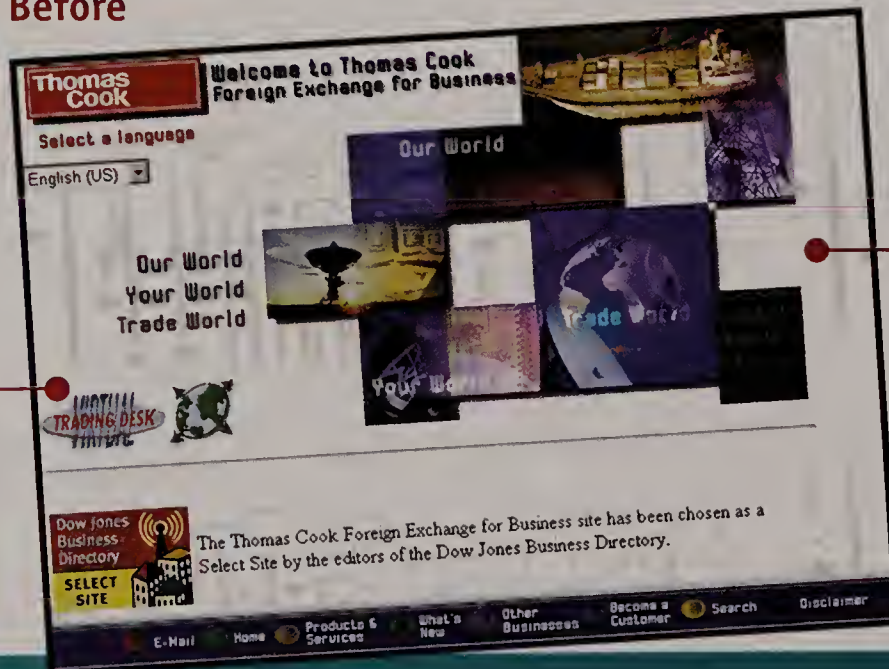
Content changes daily, encouraging people to visit the site for the latest financial information. The News & Information Section targets specific groups of customers.

After



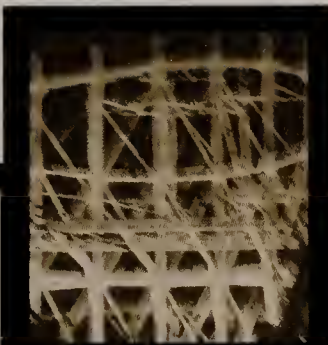
The Virtual Trading Desk is prominent on the screen and invites interactivity by including links for signing up and viewing a demo.

Before



Design didn't promote Virtual Trading Desk service as a focal point.

Static information didn't support the goal of attracting repeat visitors.



Where does
infrastructure end



and business begin?

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